

**ECCLESTON C.E. PRIMARY SCHOOL**

**COMPUTING END POINTS AND**

**KNOWLEDGE**

**By the end of Year 1, our children will;**

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| **Knowledge** |
| **Computer Science** | Know how to follow and create simple instructions on the computerKnow that by following the instructions correctly, they will get the correct result Be able to use a coding program on the computer to follow a simple set of instructionsBe able to plan and create a route for a Beebot or other programmable toyUse and understand the vocabulary left, right, up, down, forward and backward when using Beebots or an online coding program

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| **Information Technology** | Know how to sort items using a range of criteriaUnderstand that data can be represented in picture formatKnow how to sort items using the ‘Grouping’ activitiesKnow how to use a pictogram to record the results of an experiment Know the difference between a traditional book and an e-book  |
| **Digital Literacy** | Know how to log in safely Understand the idea of ‘ownership’ over their creative workKnow how to use the different icons to add pictures and text to their work Understand the importance of logging out when they have finished Know about common icons used, e.g. Save, Print, Open, New Know what is meant by ‘technology’Know types of technology used in school and out of school |
| **Skills** |
| **Computer Science** | Follow instructions in a computer programOrganise instructions for a simple recipeUse the direction keys move forwards, backwards, left and right Undo their last moveMove their character back to the starting pointUse diagonal direction keys to move the characters in the right direction Create a simple algorithm, using Beebots or similarDebug a simple algorithmChallenge themselves by using the longer algorithm to complete challenges. Explain what a block of code is. |
| **Information Technology** | Discuss what a pictogram showsRepresent results as a pictogram or simple block graphRecord resultsUse the different drawing tools to create a picture on the page Add text to a page and change the colour, font and size of the textSave their workTake photographs on a digital camera and print out with helpJoin in with sending a class email and understand how this is used as a method of communicationUse the internet to research a topic or answer a question of interest with supportUse technology to record their or someone else’s voice |
| **Digital Literacy** | Add their name to a picture they create on the computerBegin to develop an understanding of ownership of work onlineWith support, save work into work folder and understand that a private space can be created just for their workFind their saved work, with support Add pictures and text to their workBecome familiar with some of the key icons, save, print, open and new Log out when they have finishedWalk around the local school and find examples of where technology is usedRecord examples of technology outside school |
| **Vocabulary** |
| Instructions, left, right, program, forwards, backwards, up, down, direction, keys, code, stop, pictogram, sort, data, grouping, tools, drawing, E-book, sound, recording, paste, copy, spread sheet, image, count, log-in, save, my work, folder, print, open, new, icon, log-out |

**By the end of Year 3, our children will;**

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| **Knowledge** |
| **Computer Science** | Know how to work through a program that accomplishes a specific goal Know what is meant by codingKnow how to use ‘repeat’ commandsBegin to understand ‘if’ statementsBegin to understand how to experiment with the different methods of repeating blocks of codeKnow that an algorithm is a precise, step-by-step set of instructions used to solve a problem or achieve an objective Know that computers need precise instructions to followKnow that an algorithm written for a computer to follow is called a program Know how the order of instructions affects the result |
| **Information Technology** | Know how to make a simple ‘Word’ and ‘Powerpoint’ documentKnow how to save work Know how to add clip-art to a piece of work and change font size and styleKnow how to use the ‘more than’, ‘less than’ and ‘equals’ toolsKnow how to use the tools on a basic Paint packageUnderstand the functionality of the basic direction keys |
| **Digital Literacy** | Understand what makes a good password for use on the InternetKnow that some information held on websites may not be accurate or trueKnow how to send an email safelyKnow how to record actions using an i-padKnow how to stay ‘SMART’ when using the internet |
| **Skills** |
| **Computer Science** | Explain which commands they included in their program and what they achieveShow how their characters repeat an action and explain how they caused it to do soExplain how they make objects repeat actions |
| **Information Technology** | Make a power-point presentation, changing slide types and using a title pageAdd text to a page and change the colour, font and size of the text Start to type wordsUse two hands to type letters on the keyboardPractise and improve typing skillsImprove the speed and efficiency of typing skillsType a series of words with speed and accuracyAdd a picture to a document or pageSelect and save appropriate imagesPlay the pages of a power-point they have createdChildren can save their changes and overwrite a fileUse a Paint package to create pictures |
| **Digital Literacy** | Realise the outcomes of not keeping passwords safe. Contribute to a concept map of all the different ways they know that the Internet can help us to communicate. Write rules about how to stay safe on email. Discuss scenarios they may come across in the future.Make a simple, short film using an i-pad |
| **Vocabulary** |
| As previous years, plus: object, action, output, control, event, commands, if statements, variables, more than, less than, solutions, sums, row, column, typing, typing, passwords, safe, web page, concept map, paint, coding, web-site, copy, paste |

**By the end of Year 5, our children will;**

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| **Knowledge** |
| **Computer Science** | Know some ways that text variables can be used in codingUnderstand how to write a program that controls how a character moves and stops when clicked |
| **Information Technology** | Know how to add images to a spreadsheet and use the image toolboxKnow how to navigate around a spreadsheetKnow how to create pie charts and bar graphsKnow how to send an emailKnow how to enter data into a graph and answer questionsKnow how to present the results in graphic formOpen work saved in prior lessonAdd an animation to their picture.Add their own voice recording to the pageCreate their own music and add it to their page Add a background to the page  |
| **Digital Literacy** | Understand designing for a purposeKnow how to create a design, using a Paint packageUnderstand how to record action using an i-padKnow what internet safety isKnow the importance of keeping personal information safe. To understand issues concerning the reliability of sources and people onlineKnow who to tell if they are upset by something that happens online |
| **Skills** |
| **Computer Science** | Describe how to make a character or icon change angleShow that a character or icon can move at different speedsUse variables to control objects in a game/program |
| **Information Technology** | Explain what rows and columns are Save and open sheetsEnter data into cellsAdd images to a spreadsheetOpen the image toolbox and find and add clipartUse the ‘move cell’ too so that images can be dragged around the spreadsheetUse the ‘lock’ tool to prevent changes to cells |
| **Digital Literacy** | Use various aspects of a Paint package to create a design using a computerMake a short film using an i-pad |
| **Vocabulary** |
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| As previous years, plus: algorithm, cell, animation, spreadsheet, Internet safety, personal information, variables,  |

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**By the end of Year 6, our children will;**

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| **Knowledge** |
| **Computer Science** | Know how to create a more complex program that accomplishes a specific goalKnow how to code a variety of movements, backgrounds and stories |
| **Information Technology** | Begin to know the purpose, audience and features of writing blogsBegin to know that blogs need to be updated regularly to maintain the audience’s interest and engagementKnow how to use search engines to researchKnow how to create a variety of documents to record work, e.g. word, power-point, publisher |
| **Digital Literacy** | Have a good understanding of the various areas of online safety that they have studied throughout schoolKnow the safety aspects of blogging, emailing and other APP’s and programs on the internetHave an awareness of the issues surrounding inappropriate posts and cyber-bullying |
| **Skills** |
| **Computer Science** | Discuss and plan a program before coding to anticipate the variables that will be required to achieve the desired effectFollow through plans to create the programDebug when things do not run as expected |
| **Information Technology** | Use copy and paste shortcutsUnderstand how a blog can be used as an informative textUnderstand the key features of a blogBegin to create a blog with a specific purposePost comments and blog posts to an existing class blogAssess the effectiveness and impact of a blog |
| **Digital Literacy** | Apply their computing skills and knowledge to plan a game to teach online safety rulesCreate a blog safelyResearch and find out about the age of the internet |
| **Vocabulary** |
| As previous years, plus: test, debug, shortcuts, count tool, formulae, blog, World Wide Web, cyberbullying, blogging |