

**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 computer  Know 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 instructions  Be able to plan and create a route for a Beebot or other programmable toy  Use and understand the vocabulary left, right, up, down, forward and backward when using Beebots or an online coding program   |  |  |  | | --- | --- | --- | |  | | | |  |  |  | |
| **Information Technology** | Know how to sort items using a range of criteria  Understand that data can be represented in picture format  Know how to sort items using the ‘Grouping’ activities  Know 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 work  Know 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 program  Organise instructions for a simple recipe  Use the direction keys move forwards, backwards, left and right  Undo their last move  Move their character back to the starting point  Use diagonal direction keys to move the characters in the right direction  Create a simple algorithm, using Beebots or similar  Debug a simple algorithm  Challenge themselves by using the longer algorithm to complete challenges.  Explain what a block of code is. |
| **Information Technology** | Discuss what a pictogram shows  Represent results as a pictogram or simple block graph  Record results  Use 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 text  Save their work  Take photographs on a digital camera and print out with help  Join in with sending a class email and understand how this is used as a method of communication  Use the internet to research a topic or answer a question of interest with support  Use technology to record their or someone else’s voice |
| **Digital Literacy** | Add their name to a picture they create on the computer  Begin to develop an understanding of ownership of work online  With support, save work into work folder and understand that a private space can be created just for their work  Find their saved work, with support  Add pictures and text to their work  Become familiar with some of the key icons, save, print, open and new  Log out when they have finished  Walk around the local school and find examples of where technology is used  Record 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 coding  Know how to use ‘repeat’ commands  Begin to understand ‘if’ statements  Begin to understand how to experiment with the different methods of repeating blocks of code  Know 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 follow  Know 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’ document  Know how to save work  Know how to add clip-art to a piece of work and change font size and style  Know how to use the ‘more than’, ‘less than’ and ‘equals’ tools  Know how to use the tools on a basic Paint package  Understand the functionality of the basic direction keys |
| **Digital Literacy** | Understand what makes a good password for use on the Internet  Know that some information held on websites may not be accurate or true  Know how to send an email safely  Know how to record actions using an i-pad  Know how to stay ‘SMART’ when using the internet |
| **Skills** | |
| **Computer Science** | Explain which commands they included in their program and what they achieve  Show how their characters repeat an action and explain how they caused it to do so  Explain how they make objects repeat actions |
| **Information Technology** | Make a power-point presentation, changing slide types and using a title page  Add text to a page and change the colour, font and size of the text  Start to type words  Use two hands to type letters on the keyboard  Practise and improve typing skills  Improve the speed and efficiency of typing skills  Type a series of words with speed and accuracy  Add a picture to a document or page  Select and save appropriate images  Play the pages of a power-point they have created  Children can save their changes and overwrite a file  Use 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 coding  Understand 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 toolbox  Know how to navigate around a spreadsheet  Know how to create pie charts and bar graphs  Know how to send an email  Know how to enter data into a graph and answer questions  Know how to present the results in graphic form  Open work saved in prior lesson  Add an animation to their picture.  Add their own voice recording to the page  Create their own music and add it to their page  Add a background to the page |
| **Digital Literacy** | Understand designing for a purpose  Know how to create a design, using a Paint package  Understand how to record action using an i-pad  Know what internet safety is  Know the importance of keeping personal information safe. To understand issues concerning the reliability of sources and people online  Know who to tell if they are upset by something that happens online |
| **Skills** | |
| **Computer Science** | Describe how to make a character or icon change angle  Show that a character or icon can move at different speeds  Use variables to control objects in a game/program |
| **Information Technology** | Explain what rows and columns are  Save and open sheets  Enter data into cells  Add images to a spreadsheet  Open the image toolbox and find and add clipart  Use the ‘move cell’ too so that images can be dragged around the spreadsheet  Use the ‘lock’ tool to prevent changes to cells |
| **Digital Literacy** | Use various aspects of a Paint package to create a design using a computer  Make a short film using an i-pad |
| **Vocabulary** | |
| |  | | --- | | As previous years, plus: algorithm, cell, animation, spreadsheet, Internet safety, personal information, variables, | | |

**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 goal  Know how to code a variety of movements, backgrounds and stories |
| **Information Technology** | Begin to know the purpose, audience and features of writing blogs  Begin to know that blogs need to be updated regularly to maintain the audience’s interest and engagement  Know how to use search engines to research  Know 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 school  Know the safety aspects of blogging, emailing and other APP’s and programs on the internet  Have 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 effect  Follow through plans to create the program  Debug when things do not run as expected |
| **Information Technology** | Use copy and paste shortcuts  Understand how a blog can be used as an informative text  Understand the key features of a blog  Begin to create a blog with a specific purpose  Post comments and blog posts to an existing class blog  Assess the effectiveness and impact of a blog |
| **Digital Literacy** | Apply their computing skills and knowledge to plan a game to teach online safety rules  Create a blog safely  Research 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 | |