



## Progression of skills in Computing

|   | Reception  | Year 1   | Year 2  | Year 3   | Year 4   | Year 5   | Year 6  |
|---|--|--|---|--|--|--|---|
| <b>Online Safety &amp; electronic communication</b> | <ul style="list-style-type: none"> <li>- That personal information should not be shared to anyone online.</li> <li>- What they should do if they feel unsafe/uncomfortable (Uh-oh feelings)</li> </ul> | <ul style="list-style-type: none"> <li>-Explain the difference between face to face and online communication</li> <li>-Explain how they feel when they are worried and talk about things which might worry them online</li> <li>-Explain what personal information is</li> <li>-Use the key vocabulary in context of e-safety - private, personal, information, safely, respectfully.</li> </ul> | <ul style="list-style-type: none"> <li>-Explain the SMART Rules and they keep them safe on line.</li> <li>-Identify personal information from non-personal information</li> <li>-Understand how to behave online and can alert adults when they have concerns</li> <li>-Identify the wider uses of technology beyond school</li> </ul>  | <ul style="list-style-type: none"> <li>-How to make a strong password</li> <li>-The dangers and benefits of communicating online</li> <li>-Teacher sends out an email to whole class with the question – How do you know who has sent this e-mail? Children need to respond to this e-mail.</li> </ul> | <ul style="list-style-type: none"> <li>-Keep themselves safe online by following the SMART rules.</li> <li>-Understand about their web browsers... what are the different features and how are they used?</li> <li>-Search effectively, and keep themselves safe when doing so.</li> </ul> | <ul style="list-style-type: none"> <li>-Evaluate digital content. And use 'trusted' sites for research purposes</li> <li>-Use technology safely, respectfully and responsibly and am aware of personal safety</li> </ul> | <ul style="list-style-type: none"> <li>-Blogs, YouTube and other social media contains opinion</li> <li>-Brand logos help establish if something is trustworthy but can be faked</li> <li>-Spelling and grammar mistakes often show something is less trustworthy</li> <li>-Only trusted adults should be given personal information</li> <li>-Privacy notices should be checked before giving away information</li> <li>-Ways to respond to cyberbullying</li> </ul> |
| <b>Control</b>                                      | <ul style="list-style-type: none"> <li>-Use simple command words.</li> </ul>   | <ul style="list-style-type: none"> <li>-Control a Beebot by programming in simple commands</li> <li>-Control a screen turtle / robot using single commands (scratch junior)</li> </ul>   | <ul style="list-style-type: none"> <li>-Understand what algorithms are</li> <li>-Create detailed instructions</li> <li>-Control scratch junior to move the character to a given position</li> <li>-Predict the behaviour of simple programs such as where the character will finish after a series of commands (scratch junior)</li> <li>-Transfer and apply learning from a floor</li> </ul> | <ul style="list-style-type: none"> <li>-Control scratch junior to achieve a given aim using a set of commands</li> </ul>   | <ul style="list-style-type: none"> <li>-Write and debug a program, which use sequence and repetition.</li> <li>-Design, write and debug my own program by selecting appropriate visual block commands to create sequence</li> </ul>  | <ul style="list-style-type: none"> <li>-Design, write and debug more complex programs, using repeats, and variables</li> </ul>   | <ul style="list-style-type: none"> <li>-Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</li> </ul>  |

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|                                    |   |   | robot to an on screen environment  |  |  |   |   |
| <b>Modelling &amp; simulations</b> | -Follow simple instructions to make the beebot move | -Understand and follow clear instructions to perform a task   | -Understand what algorithms are<br>-Create detailed instructions<br>-Predict the behaviour of simple programs such as where the character will finish after a series of commands.<br>-Transfer and apply learning from a floor robot to an on screen environment | -Write algorithms that achieve specific goals e.g. to draw a rectangle<br>-Recognise a command in a program which causes an error<br>-Use a variety of on screen programming environments                    | -Read and follow algorithms with selection and repetition<br>-Use decomposition to comment on what effect coding has on a game<br>-Can confidently select coding blocks in Scratch to create an effect<br>-Debug algorithmic errors to correct a problem in pupils' own coding   | -Use logical reasoning to debug my more complex programs                        | -Use various forms of input and output in my programs<br>-Logically explain my own algorithms and detect and correct errors in my work  |
| <b>Understanding technologies</b>  | -Use an ipad to take a photograph                   | -Use technology to create work using painting programs<br>-Use technology to create work using a variety of tools<br>-Write and perform a song linking to online safety<br>-Film each other | -Use technology purposefully to create, organise, store, manipulate and retrieve digital content.<br>-Use DoInk to create a video with different backgrounds.  | -Use technology purposefully to create, organise, store, manipulate and retrieve digital content.<br>-Use DoInk to create a video with different backgrounds.<br>-Use HP reveal to create augmented reality. | -Use technology purposefully to create, organise, store, manipulate and retrieve digital content.<br>-Use share my work with the teacher and my peers.<br>-Collaborate on a document<br>-Share my digital ideas and information with a selected audience<br>-Present information using a range of charts, articles and audio/visual presentations<br>-Select an appropriate digital device to accomplish a specific goal | -Create a stop-motion animation<br>-Link images together to create an animation | -Create and use Google Docs and Google Slides. I can store my work and share my work with others.<br>-Use the greenscreen/ Google Docs/ Google Slides/ IMovie...<br>-Work collaboratively on documents. |

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| <p>Data logging</p>       |  | <ul style="list-style-type: none"> <li>-Save and find my digital work</li> <li>-Use technology to create work using word processing programs</li> </ul> | <ul style="list-style-type: none"> <li>-Save and retrieve digital content using a range of technology</li> <li>-Use technology to create an informative poster</li> <li>-Change the content and look of my work</li> <li>Organise information in logical ways</li> </ul>                    | <ul style="list-style-type: none"> <li>-Use a keypad with increasing control and accuracy</li> <li>-Restrict the amount of time they look at their hands when learning to type. Cover up their hands and see how well they know the keyboard (you can make a simple box out of cardboard or wood to cover both the keys and your hands).</li> <li>-They will understand to give their eyes a break from the computer screen.</li> </ul> | <ul style="list-style-type: none"> <li>-Spreadsheets capture a wide range of data – this is a database</li> <li>-Filters can be applied to find data in spreadsheet easily</li> <li>-Data loggers capture data from the physical environment</li> </ul>   | <ul style="list-style-type: none"> <li>-Collaborate through online systems and work effectively on shared documents</li> <li>-Justify my choice of digital device to accomplish a specific goal</li> </ul>  | <ul style="list-style-type: none"> <li>-Design a data collection project and analyse the results</li> <li>-Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</li> </ul> |
| <p>Using the internet</p> | <ul style="list-style-type: none"> <li>-Children can open up camera app with support.</li> </ul> | <ul style="list-style-type: none"> <li>-Explain the dangers and benefits of communicating online.</li> </ul>  | <ul style="list-style-type: none"> <li>-Use Google slides safely (login details need to remain private):</li> <li>-Save and retrieve digital content using a range of technology</li> <li>-Change the content and look of my work</li> <li>-Organise information in logical ways</li> </ul> | <ul style="list-style-type: none"> <li>-Know how to log onto school computers and Google Classroom safely</li> <li>-Know the home keys when touch typing</li> <li>-Children will be more familiar with how to navigate and operate a laptop/ipad</li> <li>-Demonstrate how to open, close and save a document</li> <li>-Use Google as my main search engine</li> <li>-Collect information from a range of digital sources</li> </ul>    | <ul style="list-style-type: none"> <li>-Use the welcome to the web site.</li> <li>-Understand the basic concepts involved in the Internet (World Wide Web, Hyperlinks, Back button etc).</li> <li>-Practice visiting and navigating around web sites, keeping private information safe.</li> <li>-Use a variety of tools e.g. Find tool to locate specific information within web pages, copying and pasting text, and saving images from the web. To know about copyright and why it is important to credit others when you use their work.</li> </ul> | <ul style="list-style-type: none"> <li>-Use the internet to refine searches, using a variety of search engines</li> <li>-Compare and evaluate information found on the web. Is it reliable?</li> <li>-Summarise and present information using Google sites- use pictures, sounds</li> </ul> | <ul style="list-style-type: none"> <li>-Understand and can explain computer networks</li> <li>-Explain how search results are selected and ranked (reliability)</li> <li>-Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration</li> </ul>                         |