



# Woodlands Park Primary and Nursery School

## Computing Curriculum Map – CYCLE A



| Term     | Early Years                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Year 1 and 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Years 3 and 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Years 5                                                                                                                                                                                                                                                                                                                                                                                              | Year 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| Autumn 1 | <p><b>NOT LIMITED TO TERMS</b></p> <p><b>1. Technology in the Real World</b><br/>- Recognising and talking about technology in their environment (e.g., phones, tills, scanners, microwaves, traffic lights).<br/>- Using simple electronic toys and devices (e.g., torches, walkie-talkies, toy tills, remote control cars).</p> <p><b>2. Early Digital Skills</b><br/>- Using age-appropriate software or apps to draw, write, take photos or play simple games.<br/>- Using a mouse, trackpad, touchscreen or simple keyboard input.<br/>- Taking photos or short recordings with tablets or classroom devices.</p> <p><b>3. Early Computational Thinking</b> (No</p> | <p><b><u>Mouse and keyboard skills</u></b><br/>Move the mouse or trackpad and left click to select an object. Drag and drop with mouse or trackpad to move objects around the screen. Use double click or double tap. Find letters or numbers on keyboard. Begin touch typing with home row keys (lv1)</p> <p>E-safety:<br/>(online relationships) I can recognise some ways the internet can be used to communicate</p> <p>(online relationships) I can give examples of how the internet can be used to communicate</p> | <p><b><u>Typing and document editing and creation</u></b><br/>Improved typing speed<br/>Continue to develop touch typing to home keys, top row and bottom row (lv3)<br/>Copy and paste text and images<br/>Find and replace words<br/>Format text for a purpose<br/>Edit images inside documents<br/>Add bullet points to make lists<br/>Experiment with keyboard shortcuts<br/>Suggested final outcome: type up a piece of work from English using google docs.</p> <p>(self-image and identity) I can identify how information online can be copied, modified or altered</p> | <p><b><u>Typing and operating systems</u></b><br/>Improved typing speed through touch typing<br/>Understand the importance of an operating system and its key features.<br/>Demonstrate important operating system skills (organising files etc), if possible, across multiple operating systems.</p> <p>(privacy and security) I can explain what to do if a password is shared, lost or stolen</p> | <p><b><u>Computers: past, present &amp; future</u></b><br/>Show awareness of how computers and digital technology helps us today. Understand how technology has changed over time and represent it as an interactive timeline. Understand the impact (positive/negative) technological changes have on society. Predict how technology will change in the future.<br/>Suggested final outcome: slides document sharing the history of computing (work on in each lesson) -group or independent</p> <p>(online reputation) I can explain ways to protect your digital identity online</p> |
| Autumn 2 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p><b><u>Introducing animation</u></b><br/>Add a background and objects to a frame (including text)<br/>Copy/clone a frame and move objects to create an animation, including flipping objects.<br/>Create an animation with multiple objects moving simultaneously.<br/>Create animated drawings of characters by cropping photos and adjusting points of movement.</p>                                                                                                                                                  | <p><b><u>Internet research</u></b><br/>Appreciate how search results are selected and ranked and show awareness of different strategies for finding specific information<br/>Understand the features of an Internet Browser<br/>Use search technologies (different websites) to find specific pieces of information<br/>Reference the correct source of information<br/>Be discerning in evaluating digital content.</p>                                                                                                                                                       | <p><b><u>computer networks</u></b><br/>Understand Computer Networks, Internet, Cloud Computing and Bluetooth and how they help us. What is email and how can we use it safely?<br/>Understand how and why we collaborate online<br/>Suggested final outcome: create a blog to display and present in class</p>                                                                                       | <p><b><u>Programming in scratch</u></b><br/>Program inputs, selection, loops and random variables (operators) for unpredictability. Program inputs, selection (conditions), sensing, random variables, operators for direction and data variables for scoring. Use inputs, selection (conditions), loops, sensing, costume changes and broadcasts.</p>                                                                                                                                                                                                                                   |

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|          | <p>Computers Needed)<br/>Following and giving simple instructions and sequences (e.g., “first, next, last”).<br/>Problem-solving through play (e.g., building, matching, sorting).<br/>Simple pattern recognition activities.<br/>Using Bee-Bots or floor robots to explore simple programming (pressing sequences of commands).</p> | <p>Understand principles of how animation is a series of photographs<br/>Suggested final outcome: whole class to pose series of photos to put together to create stop motion animation</p> <p>(online reputation) I can recognise that information can stay online and can be copied</p> <p>(Privacy &amp; security) I can explain how passwords are used to protect information</p>                                                                                                     | <p>Check the internet for fake news by cross-referencing facts</p> <p>(online reputation) I can explain how information online can be used to make correct and incorrect judgements about others</p> <p>(online relationships) I can give examples of technology specific forms of communication (e.g. emojis)</p>                                                                                                                                                                                                                                                                        | <p>(privacy and security) I can explain how and why people should keep their software up to date</p>                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>Work with multiple sprites to send broadcast messages between them</p> <p>(privacy and security) I can explain how many free apps and services may share private information</p>                                                                                                                                                                                                                                                             |
| Spring 1 | <p>4. Online Safety Foundations</p> <ul style="list-style-type: none"> <li>Knowing to <b>ask an adult for help</b> when using technology.</li> <li>Understanding that we <b>don't share personal information</b>.</li> <li>Using devices for short periods and with purpose.</li> </ul>                                              | <p><b><u>Program a robot</u></b><br/>Resource found in Planning- Hedgehogs-COMPUTING</p> <p>Recognize simple inputs: buttons<br/>Recognise simple outputs: forward and backwards, changing direction<br/>Planning a path<br/>Planning routes</p> <p>(managing online info) I can use simple key words in searches</p> <p>(online relationships) I can give examples of when I should ask permission to do something online and why this is important</p> <p>Safer internet day 11/02</p> | <p><b><u>Programming in scratch</u></b></p> <p>Introduction to scratch through tinkering (RESOURCES found in Planning - FOXES -COMPUTING)</p> <p>Program inputs with loops, selection and sensing for interactions.<br/>Work with variables and various forms of input and output.<br/>Debug programs that accomplish goals. (correcting errors)<br/>Use selection, data variables and operators.<br/>Program a virtual robot using Scratch blocks.</p> <p>(online bullying) I can give examples of bullying behaviour online and ways to get support</p> <p>Safer internet day 11/02</p> | <p><b><u>Programming in scratch</u></b><br/>Program inputs for control, selection (conditions) and sensing for interaction and data variables for scoring and a game timer.<br/>Program distance sensing and movement.<br/>Program Inputs, outputs, loops, selection, sensing and variables.<br/>Program list variables that chooses randomly.</p> <p>(online bullying) I can describe a range of ways people can be bullied online (image, video, text, chat) and recall how to get support</p> <p>Safer internet day 11/02</p> | <p><b><u>programming in python</u></b><br/>Write basic python syntax<br/>Print text<br/>Use Python as a calculator<br/>Program loops to repeat text<br/>Program interactive inputs<br/>Find errors in a program (debugging) (unplugged activity)<br/>Extension: Program a trivia chatbot using 'send message' functions</p> <p>(online bullying) I can explain ways to capture bullying content as evidence</p> <p>Safer internet day 11/02</p> |
| Spring 2 |                                                                                                                                                                                                                                                                                                                                      | <p><b><u>Develop programming</u></b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p><b><u>Graphic design</u></b><br/>Create an icon using different shapes and fill tools.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p><b><u>Programming micro:bits</u></b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p><b><u>Data detectives</u></b></p>                                                                                                                                                                                                                                                                                                                                                                                                            |

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|          | <p>Develop motor skills so that they can use a range of tools competently, safely and confidently</p> <p>Project evolve strands self-image and identity, managing online information, health wellbeing and lifestyle, privacy and security, copywrite and ownership</p> | <p>SUPPORT YEAR 1 WITH YEAR 1 TOPIC INTRODUCING PROGRAMMING</p> <p>Create and debug simple programs by selecting code blocks, placing them in the correct sequence and executing a program. Use logical reasoning to predict the behaviour of simple programs. Simplify a program by using a loop.</p> <p>(managing online info) I can demonstrate simple ways to navigate a simple webpage</p>                                                                                      | <p>Combine shapes and lines, then arrange them in front/behind each other. Combine shapes, colour and text to re-create an icon. Change the colour, size and style of text to match an icon, then arrange images and use masking and opacity tools.</p> <p>(managing online info) I can explain the benefits and limitations of different types of search technologies (e.g. voice search, user manual, forum, video)</p>                                                                                                                                   | <p>Understand that computers use physical inputs and outputs and give examples. Program physical inputs, outputs (e.g program LED lights), loops and random variables. Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems.</p> <p>Suggested final outcome: Design and program a virtual pet</p> <p>(wellbeing) I can recognise features of persuasive design and how they're used to keep users engaged</p>                                                                                                                    | <p>Use comprehension skills to find clues that match the column headings of a spreadsheet. Use spreadsheet tools (filters and conditional formatting) to find the specific data to match the clues.</p> <p>(online relationships) I can describe how to be kind and show respect for others online</p> <p>Enrichment – spreadsheets with school bursar</p>                                                                                                            |
| Summer 1 |                                                                                                                                                                                                                                                                         | <p><b>Digital Writing</b></p> <p>Resource found in Hedgehogs Summer MTP computing</p> <p>Consolidate keyboard<br/>Add and remove text<br/>Explore the toolbar<br/>Make changes to text<br/>Explain my choices<br/>Pencil or keyboard</p> <p>Suggested final outcome: type a piece of work done in English as a final piece</p> <p>I can identify ways that I can put information on the internet (and understand the importance of talking to adults before sharing information)</p> | <p><b>Animation</b></p> <p>Create a stop-motion video through photos and put together in slides. Create a stop-motion video by duplicating slides that include backgrounds and shapes. Create animation using transition and animation effects (morph, motion paths, pulse etc), including taking and editing a screenshot. Animate individual elements of objects. Create animated GIF files by animating pixels.</p> <p>Suggested final outcome: animation showcase</p> <p>(wellbeing) I can explain why some online activities have age restrictions</p> | <p><b>Text based programming</b></p> <p>Change the variables of text-based commands. Write text-based commands accurately and use fill effects, stamps and functions. Write text commands/functions to program keyboard inputs in a game. Programming a Logo turtle to move and use pen Use co-ordinates in with a Logo turtle Print labels in Logo. Program a loop and shapes in Logo Turtle. Program colours in Logo turtle. Program variables in Logo turtle</p> <p>(online relationships) I can describe strategies for safe and fun experiences in a range of online social environments</p> | <p><b>Binary code</b></p> <p>Understand why computers/electronics use binary. Match a sequence of binary code to create digital art. To convert binary code to denary numbers (decimal numbers) and visa versa.</p> <p>(managing online info) I can explain how and why some people may present 'opinions' as 'facts'; why the popularity of an opinion or the personalities of those promoting it does not necessarily make it true, fair or perhaps even legal.</p> |
| Summer 2 |                                                                                                                                                                                                                                                                         | <p><b>Data and Information</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <p><b>Data handling</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p><b>Data Handling</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p><b>Staging a Production (Lighting and Sound)</b></p>                                                                                                                                                                                                                                                                                                                                                                                                               |

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|  |  | <p>Resource found in Hedgehogs Summer MTP computing</p> <p>Label and match information<br/>Group and count<br/>Describe an object<br/>Make different groups<br/>Compare groups<br/>Answer Questions</p> <p>(copywrite and ownership) I understand work created by others does not belong to me even if I save a copy</p> <p>(copywrite and ownership) I can save work under a suitable title</p> | <p>Change appearance of cells in a spreadsheet (fill colour and border) then add and align text.<br/>Find and add data to a spreadsheet, resize cells and use the software to create a suitable chart with a title.</p> <p>(wellbeing) I can describe ways technology can affect health and wellbeing positively and negatively</p> <p>(wellbeing) I can explain why spending too much time using technology can sometimes have a negative impact</p> | <p>Select and use non-adjacent cells plus resize multiple cell widths and copy/paste cells<br/>Find data and create a spreadsheet to suit it.<br/>Use formulae to find totals, averages and maximum/minimum numbers<br/>Search a database for specific information.</p> <p>Enrichment – visit from school bursar</p> <p>(Managing online info) I can explain what is meant by stereotypes and how these can be amplified online</p> | <p>To understand the importance of technology in a play production through lighting, sound and backgrounds.<br/>Application of digital skills to create multi-media slide shows which could be implemented as digital staging elements, make brochure?</p> <p>(wellbeing) I can recognise the benefits and risks of accessing health information online and how we need to balance this with a trusted adult and professionals</p> |
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Changes – all e-safety