**Nash Mills CofE Primary School**
**Curriculum Progression Document**
**Computing**

<span style="color:red">**Skills**</span>  <span style="color:blue">**Knowledge**</span>  <span style="color:green">**Vocabulary**</span>

| | Using and applying computer skills | Computer art including 3D modelling | Programming toys and using a programming language | Presentation skills including word processing, desktop publishing and spreadsheets | Using the internet for research, online safety and designing webpages | Video and audio recording including animation |
|---|---|---|---|---|---|---|
| **Early Years** | • Knows how to operate simple equipment, e.g. turns on CD player, uses a remote control, can navigate touch-capable technology with support<br>• Shows an interest in technological toys with knobs or pulleys, real objects such as cameras, and touchscreen devices such as mobile phones and tablets<br>• Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images<br>• Plays with a range of materials to learn cause and effect, for example, makes a string puppet using dowels and string to suspend the puppet<br>• Completes a simple program on electronic devices<br>• Uses ICT hardware to interact with age appropriate computer software<br>• Can create content such as a video recording, stories, and/or draw a picture on screen<br>• Develops digital literacy skills by being able to access, understand and interact with a range of technologies | | | | • Knows that information can be retrieved from digital devices and the internet<br>• Can use the internet with adult supervision to find and retrieve information of interest to them | |
| **Year 1** | • Use a trackpad<br>• Switch on and shutdown a computer<br>• Launch an application and manipulate windows<br>• Save a file<br>• Drag objects<br>• Identify and practise my computer skills<br>• demonstrate a range of basic skills to use a computer and its software<br>• type and format text, then save my work<br>• open saved work and edit text<br>• use shapes to create a particular image<br>• use different brush tools to create a particular image<br>• create text and pictures about a shared theme<br><span style="color:green">account, clipart, computer, log on, log off, mouse, password, resize, screen (monitor), software, tool, username</span> | • Paint with different colours<br>• Paint with different brushes<br>• Create shapes and fill areas<br>• Make changes to improve work<br>• Add text to a painting<br>• Use a computer program to make a poster.<br><span style="color:green">Paint, colour, brush, tools, settings, tool, pixels shape, fill, bucket, undo, redo, text, size, poster, edit, change, select.</span> | • Create instructions using pictures<br>• Say why it is important to be precise when writing an algorithm<br>• Write instructions to program a person like a computer<br>• Program a Bee-Bot to move<br>• Debug a Bee-Bot program a sequence to make a Bee-Bot move<br>• Describe and use instructions to program a character<br>• Program a character to grow and shrink<br>• Use instructions to make characters move at different speeds and distance<br>• Use a repeat instruction to make a sequence of instructions run more than once<br>• Create programs that play a recorded sound<br>• Create programs with a sequence of linked instructions.<br><span style="color:green">algorithm, Bee-Bot, computing code, computer program, explain, explore, instructions, predict, tinker, video, bug, computer, debug, decompose, device, input, instructions, output, solution</span> | • Type a simple sentence.<br>• Type different symbols and save a document<br>• Edit the text in a simple fairy tale<br>• Correct mistakes using the undo and redo buttons<br>• Highlight appropriate words or sections of type using bold, italics and underline<br>• Change the size and colour of the font.<br><span style="color:green">backspace, bold, copy, cut, delete, highlight, image, import, italics, keyboard, keyboard character, paste, redo, space bar, underline, undo, word processing</span> | • Create, name and date digital creative work<br>• Safely search for images online<br>• Understand how to communicate safely online<br>• Understand what personal information I need to keep safe<br>• Explore how to use email to safely communicate<br>• Apply my online safety knowledge to help others make good choices online.<br><span style="color:green">Name, date, owner, text, paint, portrait, toolbar, copyright, save, folder, search, type, safe, filter, google, search engine, image, keyboard, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, key, question, safe, share, stranger, subject, address, communicate, sender, online, digital, Internet, SMART, meet, accept, reliable, danger, email.</span> | |
| **Year 2** | • Use a specific computer skill to reproduce a style of art.<br>• Use a specific computer skill to Create and compare styles of art | • Create computer art<br>• Use a range of tools in a computer program to reproduce a style of art<br>• Make and edit shapes to create a piece of art | • Give and follow an algorithm to turn right or left<br>• Give and follow an algorithm to make half and quarter turns<br>• Give and follow an algorithm using the commands right 90 and left 90. | • Use basic computer skills<br>• Use folders<br>• Organise ideas for a presentation<br>• Create a simple presentation with text | • Stay safe when using the Internet<br>• Search the Internet to find results suitable for children<br>• Follow links to another web page | |

**Skills**     **Knowledge**     **Vocabulary**

| | Skills | | Knowledge | Vocabulary | |
|---|---|---|---|---|---|
| | • Create a presentation including text and images<br>• Retrieve, edit and organise a presentation<br>• Create precise instructions for a character on a particular theme<br>• Create code for a pair of characters involving speech and movement<br>Pixel, pointillism, dots, Seurat, program, tool, size, colour, internet, program, tool, size, colour, shape, rotate, Picasso, cubism, Presentation, text, image, slide, PowerPoint, open, retrieve, edit, present, Scratch, program, code, algorithm, commands, instructions, repeat, sound, variable, blocks, sprites, backdrops. | • Change the shade of a colour for effect<br>• Retrieve a file to edit in a computer program<br>• Use a range of skills to create a piece of art<br>Pixel, Pointillism, dots, Seurat, program, tool, size, colour, Mondrian, fill, straight lines, primary colours, red, yellow, blue, weight, Picasso, Cubism, shapes, manipulate, rotate, shade, Monet, Impressionism, colour, shade, lighter, darker, mood, emotions, harmonious, complementary, Warhol, Pop Art, duplicate, screen-print, retrieve, Copy and Paste, portrait, Selective, combination, review. | • Give, follow and complete an algorithm<br>• Use recognised language in an algorithm<br>• Create, test and debug an algorithm<br>• Create an algorithm to move or rotate the turtle<br>• Create an algorithm and use the repeat command<br>• Create an algorithm and add sound<br>• Create an algorithm and use the green flag to start<br>• Create an algorithm and use the commands to change the backdrop and add sprites<br>Algorithm, instructions, commands, forward (fd), left (lt), right (rt), move, turn, clear screen (cs), variable, repeat, instructions, commands, sprite, move, add sound, block, move, add sound, repeat, say something, green flag, change colour, key press.<br>Half turn, Quarter turn, Right 90, Left 90, Debug. | • Add and format an image<br>• Reorder slides and present a presentation<br>• Search and print<br>Monitor, switch, shut down, log on, log off, windows, folder, new folder, Presentation, Microsoft PowerPoint, OpenOffice Impress, Google Slides, Apple Keynote, new slide, slide layout, text box, format, font, colour, background, line, Image, picture, photo, format, insert, copy, folder, network, aspect ratio, slide, slide sorter view, drag, present, search, print, options, date, print options, black and white, colour, selected pages, double sided. | • Follow links safely online<br>• Create content for an online blog<br>• Use a camera to take safe photos to use online<br>• Create content for an online blog<br>• Use an online blog safely and respectfully<br>• Post positive comments and responses on a blog<br>• Understand that the information I put online leaves a digital footprint<br>Internet, World Wide Web (WWW), search, search engine, results, Google, Bing, Yahoo, browser. link, web page, back, blog, picture, photo, upload, find, image, photograph, post, username, password, comment, question.<br>• Use keywords in an online search to find out about a topic<br>• Recognise whether a website is appropriate for children.<br>• Rate and review informative websites<br>• Identify kind and unkind behaviour online<br>• Apply our knowledge of safe and sensible online activities to different situations<br>Digital footprint, trail, e-Safety, online, website, advert, content, social media, post, public, Keyword, search engine, Internet, safe, secure, appropriate, rating, review, rank, cyberbullying, chat, messenger | |
| **Year 3** | • Copy a screenshot into another application.<br>• Use a secure password.<br>• Use <ctrl> keyboard shortcuts.<br>Launch, application, window, minimise, restore, size, move, screen, split, create, organise, file, | | • Create and debug algorithms to draw regular polygons using the repeat command/ block (Turtle Logo and Scratch)<br>• Draw shapes with spaces between using penup and pendown (Turtle Logo)<br>• Change and alter the pen settings (Scratch) | • Use undo and redo.<br>• Make text bold, italic or underline.<br>• Select text in different ways.<br>• Change case.<br>• Align text.<br>• Select single words.<br>• Cut, copy and paste text.<br>• Format the font. | • To know and understand how word order affects the results returned.<br>• They will know how to bookmark or favourite a page and name different types of online communication. | • Insert audio and video into a presentation.<br>• Record audio for a presentation.<br><br>branching story, plan, link, image, picture, audio, video, template, link, text box, title, Theme, transition, animation, |

# Nash Mills CofE Primary School
## Curriculum Progression Document
### Computing

| | | **Skills** | | **Knowledge** | | **Vocabulary** |
|---|---|---|---|---|---|---|
| | | folder, close, exit, search, print, password, screenshot, Snipping Tool, Keyboard, typing, save, folder, shift, Caps Lock, space bar, edit, backspace, delete, arrow keys, undo, redo, select, format, change case, Uppercase, lower case, capitals, Menu buttons, align text, left, right, centre, justified, show all characters, bullet point, numbered point, indent, ruler, Select, <ctrl> key, control key, keyboard, shortcut, Text box, format, wrap text, square. | Algorithm, instructions, commands, forward (fd), left (lt), right (rt), move, turn, clear screen (cs), variable, pen up, pen down, calculation, Sprite, block, command, background or backdrop, algorithm, green flag, key press, pen, repeat | • Insert images.<br>• Order and group objects.<br>• Move, resize and arrange text boxes and images effectively.<br>• Create a hyperlink to another slide<br>• use slide transitions<br>• Plan a branching story<br>• Create simple slide templates<br>Draw, object, shape, line, line colour, fill colour, forward, backward, front, back, group, ungroup, length, size, text, format, image, photo, photograph, picture, background, outline, font, size, colour, text box, wrap text, square, aspect ratio, objects, layout, text box. | • Identify which word order gives the better results when searching online and be able to support this with examples.<br>• They will be able to share a webpage with others.<br>• Children will be able to research the different types of online communication used by their peers.<br>• Children will know what to do if they feel uncomfortable when communicating online.<br>• They will be able to identify how they should behave online.<br>• Recognise and define cyberbullying;<br>• Identify safe people to report cyberbullying to;<br>• Know how cyberbullying can happen via a range of devices;<br>• Identify a range of targeted online adverts;<br>• Explain how companies use websites to promote products;<br>• Create a strong password, explaining why it is important;<br>• Explain what privacy settings are and how to use them safely;<br>Internet, World Wide Web (WWW), search, search engine, results, Google, Bing, Yahoo, browser, key words, multiple, trustworthy, spam, browse, social media, Facebook, Twitter, Snapchat, Flickr, Instagram, email, communicate, message, attachment, Skype, Facetime. Cyberbullying/bullying, digital, device, email, social media, posts, comments, website, Internet, Digital, device, Internet, advert, product, target, digital footprint, password, secure, privacy, settings, protect, safe, inbox, Online, community, private, communication, forum, advert. | slide, object, Object, link, hyperlink, button, shape, action settings, sound, movie, embed, link, file format, Evaluate, text, colour, layout |

| | Skills | | Knowledge | | Vocabulary |
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| | Skills | | Knowledge | | | Vocabulary |
|---|---|---|---|---|---|---|
| **Year 4** | • Design and create an original character using appropriate software.<br>• Use appropriate software to tell a story involving a new cartoon character.<br>• Use other software to create an additional description or other materials linked to a character.<br>• Combine software to present information about a character.<br>Cartoon, character, animate, research, story, plan, design, create, draw, narrate, evaluate, present, personality, description. | | • Write a program which accomplishes a specific goal.<br>• Create a program that includes a logical sequence.<br>• Debug a program they have written.<br>• Use repetition and selection.<br>• Work with variables and adjust these depending on the effect they wish to create.<br>• Understand and use the duplicate function.<br>• Demonstrate that they understand how to combine a range of different effects to create their own quiz.<br>Quiz, paper, online, pros, cons, decompose, decomposing, logical sequence, flowchart, sprite, block, command, key press, answer, algorithm, answer, correct, errors, program, variables, colour, words, effects, costume, size, background, backdrop, sounds, record, play, broadcast, repeat, sound effects, visual effects, change, vary, score.<br>• Write procedures using simple algorithms.<br>• In Scratch, change the colour of the pen.<br>• Write text using the label command.<br>• Draw shapes using setpos or setxy.<br>• Fill shapes in different colours.<br>• Draw arcs of different sizes as required.<br>Algorithm, instructions, commands, forward (fd), left (lt), right (rt), move, turn, clear screen (cs), variable, penup, pendown, calculation, procedure, setpos, setxy, setx, sety, variable, calculation, procedure, setpc, setpensize, random, fill, setcolor, setfloodcolour, label, random, arc | • Format an image;<br>• Use formatting tools to improve the layout;<br>• Use the spellcheck tool;<br>• Insert a simple table;<br>• Change the size of the page.<br>• use some of the main keyboard shortcuts;<br>• Suggest ways to improve a layout;<br>• Apply specific effects to an image;<br>• Add a spelling to the spelling dictionary;<br>• Add or delete rows or columns in a table;<br>• Suggest ways to change a table;<br>• Type at an appropriate speed;<br>• Choose a relevant website to link a document to;<br>• Create a hyperlink.<br>Format, image, insert, Microsoft Word, Google Docs, poster, font, colour, type, size, align, select, folder, edit, document, webpage, copy, paste, toolbar, copyright, Layout, object, area, bullets, numbering, insert, image, text box, manipulate, features, save, wrap, review, spelling, spellcheck, grammar, ignore, change, ignore all, add to dictionary, highlight, cursor, toolbar, word processing, insert, table, border, cell, shading, colour, rota, toolbar, navigate, Columns, page layout, page size, A5, A4, toolbar, tool, menu, picture, recipe, Hyperlink, voucher, URL, text, apply, combine, toolbar, tools, improve, create | | • Identify comments or messages that may be hurtful to others;<br>• Edit their own messages and comments to make sure they are kind;<br>• Understand that search results are ranked;<br>• Choose an appropriate number of words for a search term;<br>• Explain how to use other people's work respectfully;<br>• Explain why it may be dangerous to share private information;<br>• Explain how to be a good digital citizen;<br>• Tell someone else more than one way to stay safe online.<br>Online, cyberbullying, e-Safety, search engine, keywords, synonyms, results, plagiarism, citation/cite, profiles, social media, account, register, private, public, digital citizenship, responsibility. | • Explain what is meant by animation.<br>• Create a series of linked frames that can be played as a short animation.<br>• Control and adjust a time slider to locate a different point in a film clip.<br>• Insert images to create a simple<br>• stop-motion animation short film clip.<br>• Evaluate the good and bad points about some animation software.<br>• Describe one or more traditional methods of animation.<br>• Make slight changes to an image using onion skinning, understanding the term.<br>• Use a time slider to find a specific point in a film clip to insert or edit an object.<br>• Edit and refine images in a stop-motion animation short film clip.<br>• Compare different animation software by analysing good and bad points.<br>Animate, animation, still image, thaumatrope, zoetrope, zoopraxiscope, stereoscope, flip book, frame, onion skinning, loop, frame rate, record, stop, play, backdrop, stop motion, stop frame, upload, image, analyse, evaluate, positive, negative, effectiveness. |
| **Year 5** | • use search engines safely and effectively to research ideas | • draw 3D shapes<br>• add detail to 3D drawings | • Design a set of instructions on paper for a character game, to convert into Scratch algorithm. | | • evaluate webpages<br>• create a webpage layout<br>• add text to a webpage | • use software to create my own sounds by recording, editing and playing |

| | **Skills** | | **Knowledge** | | **Vocabulary** |
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| | Skills | Skills | Knowledge | Knowledge | Vocabulary |
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| | • use and combine appropriate software to draw and design room plans and other features<br>• use and combine software to present information in different ways<br><br>Research, plan, design, create, promote, evaluate, present. | • add and manipulate 3D models<br>• create a complex 3D model<br>• create a 3D model of my own design<br>2D shape, 3D shape, rectangle, push/pull, orbit, pan, zoom, zoom extents, move, inference, eraser, dimension, measurement, guide, group, component. | • Design an original character or backdrop for a specific purpose within a computer game<br>• Improve an existing game by adding additional features such as sound, movement or speech bubbles.<br>• Use forms of animation to create a new computer game, with a specific purpose or goal. Make an object move automatically and change its appearance.<br>• Improve the effect of the game by add further costumes and programming costume changes to sprites as a consequence to an event.<br>• Complete game playability by adding scoring and levels.<br>• Draw and interpret a flowchart with the correct symbols<br>• Create and edit a flowchart to control a simulated device<br>• Control multiple outputs at the same time<br>• Use a decision symbol based on the status of an input<br>• Create a flowchart program containing a subroutine<br>• Design, write and debug my own flowchart<br>• Program for a given task<br>Flowol, flowchart, algorithm, control, output, mimic, simulation, insert, symbol, start, stop, delay, process, decision, input, loop, subroutine | | • add images to a webpage<br>• add hyperlinks into a webpage<br>• publish and share my webpage<br>Internet, World Wide Web (WWW), search, search engine, advanced search, results, Google, browser, tab, window, layout, text, font, colour, image, video, animation, website, webpage, date, text, format, heading, format, layout, Creative Commons, attribution, permission, attribution, terms of use, hyperlink, bias, authority, sponsored link, advertising, publish, share.<br>• identify spam emails and what to do with them<br>• write citations for the websites I use for research<br>• create strong passwords<br>• recognise when, why and how photographs we see online may have been edited<br>• apply online safety rules to real-life scenarios<br>• apply online safety rules to real-life scenarios<br>Email, spam, link, privacy, virus, scam, phishing, inbox, junk, sender, subject, Cite, citation, plagiarism, source, website, bibliography, Passwords, secure, safe, account, online, private, Posts, media, image, photography, digital, photoshop, edit, filter, apps, software, social media, adverts, copyright, personal information, photographs, editing, comic. | • combine audio effects to create an original radio jingle<br>• research and plan digital content for a radio podcast<br>• use software to create and present digital content for a radio podcast design and record a persuasive radio advert for a product or service<br>• present and evaluate audio content<br>Sound, audio, record, edit, play stop, skip, waveform, input, output, jingle, backing track, voiceover, mute, gain, podcast, digital content, downloadable, rehearse, download, listen. |
| **Year 6** | • present research on game types to inform planning<br>• use Scratch or Kodu to create a simple game<br>• design appropriate advertising materials to launch or promote a product | | • create appropriate animations for a story scene<br>• structure and control the timing of events<br>• control when objects need to be visible<br>• sequence events to create a story narrative<br>• add voice sounds to enhance an animated story | • enter data and formulae into a spreadsheet<br>• order and present data based on calculations<br>• add, edit and calculate data<br>• use a spreadsheet to solve problems | • find similarities and differences between in-person and cyberbullying.<br>• identify good strategies to deal with cyberbullying<br>• identify secure websites by identifying privacy seals of approval | • use appropriate software and other tools effectively to write a film script<br>• locate and check appropriate digital content, and provide accurate crediting of sources<br>• use digital recording devices to film and import into video editing software |

| | | **Skills** | | **Knowledge** | | **Vocabulary** | |
|---|---|---|---|---|---|---|---|
| | | Product Launch, market research, design, create, promote, evaluate, present. | • add interactive user features to a scene or story<br>Animate, animation, project, remix, repeat, iteration, debug, broadcast, receive, sequence, receive, sequence, show, hide, visible, invisible, deconstruct, transition, audio, record, interactive, user<br>• investigate and evaluate the features of programming software<br>• program Kodu using When and Do instructions<br>• use tools and add features to create an original landscape in Kodu<br>• analyse and deconstruct code to work out its purpose<br>• program a character to be controlled around a custom track to reach a goal<br>• program a character to follow an automatic path<br>Kodu, world, object, tool palette, program, environment, smooth, flatten, raise, track, character, start, finish, obstacle, path, node, bump, settings, acceleration, turning | • plan and calculate a spending budget<br>• design a spreadsheet for a specific purpose<br>Spreadsheet, cell, row, column, formula/formulas, calculate, format, formulae, average, percent, edit, insert, ascending, descending. | • understand the benefits and pitfalls of online relationships.<br>• identify information that I should never share<br>• identify how the media play a powerful role in<br>• shaping ideas about girls and boys<br>• apply my online safety knowledge to my online activities<br>• use my knowledge of online safety to create a multiple choice quiz<br>Cyberbullying, reporting, anonymous, victim, Secure, https, site, domain, browser, address bar, fraud/fraudulent, policy, private/personal, instant messaging, Gender, media, stereotype, online media, message, SMART, cyberbullying, attachments, email, website, secure, personal, private, acronym, security, privacy, personal information. | • plan, conduct and import video interviews as part of a short film<br>• use video editing software to create a short film<br>• use video editing software to turn a film<br>• project into a finished movie and present it<br>Documentary, film-making, film, production, pre-production, interview, location, prop. Shot, angle, close-up, frame, pan, zoom, subject, background, interviewer, interviewee, improvise, frame, low angle, high-angle, side view, Production, post-production, edit, import, split, trim, Publish, convert, file, postproduction, project, evaluation, screening, ceremony, upload. |