



Progression in Computing - The Mill Academy

E-Safety

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
NC Objectives	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.		Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.			
Knowledge	<p>Begin to understand how to stay SMART (safe, meet, accept, reliable, tell) online.</p> <p>Understand how to search for safe images.</p> <p>Identify some personal information and begin to understand how it can affect safety online.</p> <p>Understand that there are digital ways to communicate, e.g. email.</p> <p>Tell a trusted adult if they see something inappropriate online.</p>	<p>Understand how to stay SMART online.</p> <p>Understand whether a webpage is suitable for children or not.</p> <p>Understand what a digital footprint is.</p> <p>Identify some forms of digital communication, e.g. email.</p> <p>Identify kind and unkind behaviour online.</p>	<p>Understand how websites use adverts to promote products.</p> <p>Begin to understand the importance of privacy settings.</p> <p>Identify other platforms for digital communication, e.g. online gaming/apps.</p> <p>Understand my digital footprint and how it can affect safety online.</p> <p>Understand what cyberbullying is and some ways to address it.</p>	<p>Understand how cyberbullying can affect someone.</p> <p>Understand how to respond to unkind messages.</p> <p>Understand the term plagiarism and how to avoid it.</p>	<p>Identify spam emails and what to do with them.</p> <p>Recognise when, why and how photographs we see online may have been edited.</p> <p>Understand the consequences of my actions online.</p>	<p>Understand the positives and drawbacks of current technology, including social media.</p> <p>Understand how the media influences ideas and opinions.</p> <p>Identify a range of ways to report concerns.</p> <p>Understand how to keep their private information secure online.</p> <p>Compare cyberbullying to in-person bullying and identify effective strategies to deal with it.</p>
Skills	Save, name and date digital work they create.		Safely send and receive emails.	Create a safe online profile with a strong password.	Write citations for the websites I use for research.	



Vocabulary	Safe, meet, accept, reliable, tell, personal information, online, safety, digital, communicate, save, date, email.	Safe, meet, accept, reliable, tell, digital footprint, webpage.	Digital platforms, cyberbullying, privacy, advertisement.	Plagiarism, password, secure, profile.	Citation, spam, edited.	Social media.
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Technology, Software and Programs

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
NC Objectives	Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Recognise common uses of information technology beyond school.		Understand computer networks including the internet; how they can provide multiple services, such as the WWW; and the opportunities they offer for communication and collaboration. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. 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.			
Knowledge	Identify and discuss forms of information technology in the home and school. Begin to understand the purpose of a search engine. Understand that information is presented in many ways (e.g. text, images and videos).	Identify and discuss forms of information technology in the wider world. Understand the purpose of a search engine. Understand the need for safety filters. Describe some likes and dislikes about a webpage.	Name a range of programs and some of their basic features. Begin to understand that not all information online is reliable. Begin to decide whether a website is useful and appropriate.	Suggest a program that could be used based on its features. Understand that not all information online is reliable and how it is inputted (Wikipedia). Decide whether a website is useful and appropriate.	Justify why they have chosen to use a specific program. Identify who a webpage may be aimed at and explain why.	Understand the purpose, strengths and drawbacks of different programs. Understand how results are selected and ranked, including wording used for initial search.



<p>Skills-Internet</p>	<p>Open the internet browser.</p> <p>Use a given webpage to find some facts or an image to answer a specific question.</p>	<p>Use a safe search engine to find facts and images to answer a specific question, e.g. how high is the Eiffel Tower?</p> <p>Identify key words in a question to use in a search engine.</p>	<p>Use a safe search engine to find facts and images about a specific topic, e.g. the Eiffel Tower.</p> <p>Identify some key facts from a chunk of text or a video.</p>	<p>Use a safe search engine to find facts about a topic, e.g. Paris.</p> <p>Identify relevant key facts from a chunk of text or a video.</p>	<p>Use a safe search engine to find facts about a wider topic, e.g. capital cities.</p> <p>Navigate their way around a webpage to find relevant information, including using hyperlinks.</p>	<p>Select relevant information from a webpage.</p> <p>Compare information from two different sources.</p>
<p>Skills-Microsoft Office</p>	<p>Switch on a computer and log on and off (with adult support).</p> <p>Open a program or previously saved work (with adult support) and close a program.</p> <p>Save a document with an appropriate name (with support).</p> <p>Print a document (with support).</p> <p>Type and draw in a document.</p> <p>Use the computer mouse or trackpad to move, click and drag objects.</p> <p>Change font, colour or size of text.</p>	<p>Log on and off safely.</p> <p>Open and close a program.</p> <p>Save a document with an appropriate name.</p> <p>Print a document.</p> <p>Use upper and lower case letters when typing.</p> <p>Insert images, text boxes and shapes and begin to edit them, e.g. changing colour, including using copy and paste.</p> <p>Use bold, italics and underline features.</p> <p>Create a short presentation by inserting and editing slides.</p>	<p>Save documents in a specific location.</p> <p>Print documents with a specific property, e.g. A3.</p> <p>Begin to type using both hands and use punctuation marks, including using shift.</p> <p>Edit the design and layout of a document, e.g. background, borders, orientation, columns, margins.</p> <p>Insert bullet points or a numbered list.</p> <p>Choose and insert different slides with purpose.</p>	<p>Create a folder to save a document into.</p> <p>Print a document with the appropriate properties.</p> <p>Type using both hands and use a wider range of punctuation marks.</p> <p>Begin to use simple shortcuts, e.g. ctrl and c to copy.</p> <p>Insert a hyperlink to a webpage.</p> <p>Insert a table, add text and begin to use editing tools (e.g. make headers bold).</p> <p>Understand why the red and blue error lines occur and edit work accordingly.</p>	<p>Type confidently using both hands.</p> <p>Use a wider range of shortcuts.</p> <p>Add a background and borders.</p> <p>Use headers and footers, including page numbers.</p> <p>Use a range of tools to edit a table, e.g. merge, insert row, align text, shading.</p> <p>Use the spelling and grammar function and edit documents appropriately.</p> <p>Change transition or animation effects (e.g. timer, sounds).</p>	<p>Type proficiently.</p> <p>Insert and use a range of tools and features.</p> <p>Choose an appropriate layout, e.g. margins, tables, orientation, columns.</p> <p>Choose an appropriate design depending on the formality of the document, e.g. font, size, colour, borders.</p> <p>Review and edit documents using a range of tools.</p> <p>Create and present an effective presentation using a range of features.</p>



<p>Skills- Microsoft Office</p>	<p>Use icons to copy and paste.</p> <p>Insert, resize and rotate an image.</p>	<p>Follow hyperlinks to another webpage.</p>	<p>Input data into a spreadsheet to create a database.</p> <p>Find and highlight specific cells, rows and columns.</p>	<p>Insert a range of transitions and animations.</p> <p>Choose and justify background/design.</p> <p>Apply and use filters to order and sort data.</p> <p>Format spreadsheet or shade rows, columns and individual cells.</p>	<p>Insert a hyperlink within and across programs.</p> <p>Use a wider range of formulas to find specific information.</p> <p>Create graphs from data.</p>	<p>Sort, filter and use other formulas to find specific information more efficiently.</p> <p>Create a wider range of graphs and add a title and axis labels.</p>
<p>Vocabulary</p>	<p>Browser, log on, log off, open, save, print, type, draw, icon, resize, rotate, insert, font, drag, click, mouse, trackpad, left click, right click.</p>	<p>Search engine, filters, uppercase, lowercase, document, text box, copy, paste, shape, edit, outline, fill, bold, italics, underline, presentation, slide, hyperlink.</p>	<p>Source, folder, drive, A4/A3, shift, background, border, orientation, columns, margin, bullet points, spreadsheet, data, database, cell, row, column, reliable.</p>	<p>Shortcut, hyperlink, table, tab, control, header, footer, spell check, grammar, sort, filter, transition, animation, validity.</p>	<p>Replace, merge, split, align, centre, shading, formula, graph.</p>	<p>Software, review, axis, chart, title, align, justify.</p>



Algorithms

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
NC Objectives	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs.		Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.			
Knowledge	Understand that an algorithm is a set of instructions given to a computer in order.	Understand why it is important to be precise when writing an algorithm.				
Skills	<p>Bee-Bot Carry out a sequence with a single command, including forwards, backwards and turn.</p> <p>Programme the Bee-Bot to get from one point to another along a specific route.</p> <p>Make sensible predictions about where a Bee-Bot may stop from a simple set of instructions.</p>	<p>Bee-Bot Carry out a sequence with multiple commands to go along a specific route.</p> <p>Make sensible predictions about where a Bee-Bot may stop from a set of instructions.</p> <p>Change and improve their sequence of commands.</p> <p>Scratch Junior Choose a new sprite or background.</p> <p>Carry out a sequence with multiple commands,</p>	<p>Scratch Choose a new sprite or background.</p> <p>Add and delete commands.</p> <p>Carry out a sequence with multiple commands, including moving and turning.</p> <p>Use other codes, such as say, think, increase, decrease and sounds.</p> <p>Detect and correct errors in algorithms as necessary.</p>	<p>Scratch Start commands in different ways.</p> <p>Animate a sprite by using change costume and repeat functions.</p> <p>Use conditional statements within the program to control the sprite (e.g. if... then..)</p> <p>Detect and correct errors in algorithms as necessary.</p>	<p>Scratch Create and edit variables.</p> <p>Use a wider range of conditional statements to control the sprite.</p> <p>Design a simple game including sprites, backgrounds, scoring and/or timers.</p> <p>Detect and correct errors in algorithms as necessary.</p>	<p>Scratch Design a game using conditional statements, loops, variables and broadcast messages.</p> <p>Evaluate the effectiveness of the game and debug as required.</p>



		including increasing or decreasing size of sprite. Use other simple commands, such as speak, repeat and sounds. Debug a set of instructions when necessary.				
Vocabulary	Algorithm, sequence, single command, forwards, backwards, turn, left, right, route, Bee-Bot, instructions, predictions.	Multiple commands, clockwise, anticlockwise, increase, decrease, sprite, background, debug, repeat.	Degrees, sprite, motion, code, detect, correct, errors.	Conditional statements, repeat, costume.	Scoring, timers.	Broadcast messages, loops, effectiveness.

Multimedia

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
NC Objectives	Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Recognise common uses of information technology beyond school.		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.			
Knowledge	Use ICT to generate ideas for their work. Use various tools such as brushes, pens, rubber, stamps and shapes.	Take photographs and videos for a purpose. Discuss which videos to keep and which to delete. Change, save, retrieve and edit sounds they have recorded.	iMovie/Movie Maker Arrange clips to create a short film. Choose which clips to keep and which to discard. Add a title and credits.	iMovie/Movie Maker Trim and arrange clips to convey meaning. Add titles, credits, slide transitions and special effects.	Animation Plan what they would like to happen in their animation. Take a series of pictures to form an animation.	Animation Plan a multi-scene animation including characters, scenes, camera angles and special effects. Adjust the number of photographs taken and



	<p>Use software to take a photograph and capture a video.</p> <p>Use software to record sound at and away from a computer.</p>				<p>Move items within their animation to create movement on playback.</p> <p>Edit and improve their animation.</p>	<p>the playback rate to improve the quality of the animation.</p> <p>Publish their animation and use a movie editing package to edit/refine and add titles.</p>
Vocabulary	Tools, brush, pen, rubber, stamp, shape, software, photograph, capture, video, record, sound.	Save, retrieve, edit, purpose, delete.	Arrange, film, title, credits, discard, audience, clip.	Trim, slide transitions, special effects.	Animation, series of pictures, playback, scenes.	Multi-scene, camera angles, special effects, playback rate, quality, publish, refine.