

Skill	By the end of Year 1	By the end of Year 2
<p><i>NC Objective</i> <i>Technology in our lives</i></p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To recognise the ways we use technology in our classroom.</li> <li>- To recognise ways that technology is used in my home and community.</li> <li>- To use links to websites to find information.</li> <li>- To begin to identify some of the benefits of using technology.</li> </ul> <p><b>Vocabulary:</b> app, technology, computer, Ipad, keyboard, beebot, remote control, laptop, screen, type, digital, respectfully, safely, create, organise</p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To explain why I use technology in the classroom.</li> <li>- To explain why I use technology in my home and community.</li> <li>- Starting to understand that other people have created the information I use.</li> <li>- To identify benefits of using technology, including finding information, creating and communicating.</li> </ul> <p><b>Vocabulary:</b> App, technology, computer, Ipad, keyboard, Beebot, remote control, laptop, screen, type, digital, respectfully, safely, create, organise, manipulate, retrieve, internet</p>
<p><i>NC Objective</i> <i>Multimedia</i></p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To find letters on the keyboard.</li> <li>- To use the backspace key to delete text.</li> <li>- To use the spacebar to create a finger space and start a new word.</li> <li>- To use a keyboard and a word bank on my device to enter text.</li> <li>- To use a 'painting tool' app to create a piece of work.</li> <li>- To make us of different technological tools i.e. use Ipads, Ipods, cameras, sound buttons etc.</li> <li>- To use technology to create and present different ideas.</li> <li>- To save information in a specific place and retrieve it.</li> <li>- To use the pinching method to increase or decrease the size of an image.</li> <li>- To change the size and style of my font.</li> <li>- To point and focus to capture an object using a 'camera'.</li> <li>- To understand what a search engine is.</li> </ul> <p><b>Vocabulary:</b> Amend, retrieve, digital, device, save, load, edit, keyboard, delete, backspace, space bar, pinching, increasing, decreasing, present, font, size, colour, document, search engine, capture</p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To use the shift key to create a capital letter.</li> <li>- To find numbers and some special characters on a keyboard.</li> <li>- To know where to find emojis on a smart device keyboard.</li> <li>- To use the 'return'/'enter' key to start a new line.</li> <li>- To insert images into a working document.</li> <li>- To know the flashing cursor identifies where to type.</li> <li>- To press the 'undo' button to remove my last action.</li> <li>- To use video to organise my ideas.</li> <li>- To name, save and retrieve content.</li> <li>- To share an online tool that will help me share my ideas with other people.</li> <li>- To experiment with a range of 'media' (i.e. clipart/drawing tools/word art etc.)</li> <li>- To check a photo's resolution, re-take if needed or delete if necessary.</li> <li>- To learn how to use a printer.</li> <li>- To conduct simple searches using 'child friendly' search engines as a resource, eg: Kiddle</li> </ul> <p><b>Vocabulary:</b> Shift, character, emojis, return, enter, flashing cursor, images, document, undo, retake, delete, name, save, retrieve, online, research, search engines, media, apps, tools, print, manipulate.</p>

<p><b>NC Objective Programming</b></p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To give instructions to my friend and follow their instructions to complete a task.</li> <li>- To organise instructions to complete a simple task.</li> <li>- To create a simple series of instructions. E.g. left and right.</li> <li>- To follow instructions which include; forwards, backwards, up, down, left and right.</li> <li>- To give instructions which include; forwards, backwards, up, down, left and right.</li> </ul> <p><b>Unplugged/Beebots:</b></p> <ul style="list-style-type: none"> <li>- To create a simple algorithm.</li> <li>- To describe what actions I need to do to make something happen and begin to use the word algorithm.</li> <li>- To correct mistakes in my algorithm and know this is called debugging. (I know how to debug an algorithm)</li> <li>- To predict what will happen for a short sequence of instructions.</li> </ul> <p><b>Floor Robots:</b> I can input the correct algorithm into a floor robot so that it does what I want.</p> <p><b>Software/Apps:</b> I can begin to use software/apps to create movement and patterns on a screen.</p> <p><b>Vocabulary:</b> Debug, algorithm, code, instructions, forwards, backwards, left, right, up, down, predict, order, movement, result, programme, sequence</p>	<p><b>Skill:</b></p> <p><b>Beebots:</b></p> <ul style="list-style-type: none"> <li>- To create an algorithm to perform a particular task on the beebots.</li> <li>- To create an algorithm by sequencing command cards on the beebots .</li> <li>- To write an algorithm using symbols, eg: appropriate arrows for moving forward, backwards, up or down.</li> <li>- To predict what an algorithm will do.</li> <li>- To test my algorithm to see if it works.</li> <li>- To spot mistakes in an algorithm and debug it.</li> </ul> <p><b>Programming Software (Scratch):</b></p> <ul style="list-style-type: none"> <li>- I can 'tinker' with an existing programme and change things to see what happens.</li> <li>- To identify and say what each command button does (function).</li> <li>- To sequence a set of commands to make something happen.</li> </ul> <p><b>Vocabulary:</b> Tinkering means trying things out; this is the exploratory phase of learning about something. Predict, programme, debug, algorithm, code, command, sequence, command button, function, test, character, objects, action</p>
--	---	--

<p><i>NC Objective E-Safety</i></p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To keep my password private.</li> <li>- To tell you what personal information is.</li> <li>- To tell an adult when I see something unexpected or worrying online.</li> <li>- To talk about why it's important to be kind and polite.</li> <li>- To recognise an age appropriate website.</li> <li>- To agree and follow sensible e-Safety rules</li> <li>- To use the screen protection 'Hector Protector'</li> <li>- To return to the homepage when exploring away from teacher directed site</li> </ul> <p><b>Vocabulary:</b> Real, online, stranger, bullying, anti-bullying, Hector-Protector, minimise, maximise, homepage, website, e-Safety</p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To explain why I need to keep my password and personal information private.</li> <li>- To describe the things that happen online that I must tell an adult about.</li> <li>- To talk about why I should go online for a short amount of time.</li> <li>- To talk about why it is important to be kind and polite online and in real life.</li> <li>- To know that not everyone is who they say they are on the Internet.</li> <li>- To use the browser back arrow if there is a pop-up/advertising</li> <li>- To understand that some information online might not be true</li> <li>- To know that nothing online is private and do not share photos</li> <li>- To know that people who I communicate with online might not be who they say they are.</li> </ul> <p><b>Vocabulary:</b> Password, private, online, internet, browser, pop-up, communicate, website, appropriate language</p>
<p><i>NC Objective Data Handling</i></p>	<p>There are opportunities to link Computing with other areas of the National Curriculum - such as:</p> <ul style="list-style-type: none"> <li>• Data handling in the Maths and Science Curriculum</li> </ul>	<p>There are opportunities to link Computing with other areas of the National Curriculum - such as:</p> <ul style="list-style-type: none"> <li>• Data handling in the Maths and Science Curriculum</li> </ul>

Skill	By the end of Year 3	By the end of Year 4
<p><b>NC Objective Technology in our lives</b></p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To save and retrieve work on the internet, the school network or my own device.</li> <li>- To explain ways to communicate with others online.</li> <li>- To describe the World Wide Web as the part of internet that contains websites.</li> <li>- To use search tools to find and use appropriate websites.</li> </ul> <p><b>Vocabulary:</b> App, technology, computer, ipad, keyboard, Beebot, remote control, laptop, screen, type, digital, respectfully, safely, create, organise, manipulate, retrieve, communication, collaboration, systems, World Wide Web</p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To explain whether a resource I am using is on the internet, either the school network or my own device.</li> <li>- To identify key words to use when searching safely on the internet.</li> <li>- To create a hyperlink to a resource on the internet.</li> </ul> <p><b>Vocabulary:</b> App, technology, computer, iPad, keyboard, Beebot, remote control, laptop, screen, type, digital, respectfully, safely, create, organise, manipulate, retrieve, communication, collaboration, systems, World Wide Web, network</p>
<p><b>NC Objective Multimedia</b></p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To move the flashing cursor to where I need in order to insert a word or letter.</li> <li>- To cut and paste or copy and paste pictures or text into a document.</li> <li>- To can align text using alignment tools and text boxes.</li> <li>- To emphasise key words/subheadings in <b>bold</b>, <i>italic</i> or <u>underlining</u>.</li> <li>- To choose a colour scheme that matches the topic text.</li> <li>- To edit photos using; filters, cropping and adding borders.</li> <li>- To plan a story board in order to inform me of the correct way to order information.</li> <li>- To trim a video to adjust its duration.</li> <li>- To show an awareness of audience when creating pieces of work for presentation.</li> <li>- To evaluate my work and evaluate its effectiveness.</li> <li>- To pick out useful information found using a search engine.</li> </ul> <p><b>Vocabulary:</b> Insert, format, cut, paste, copy, align, bold, italic, underline, cropping, filters, borders, trim, video, image, text, font, information, storyboard.</p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To double click/tap to highlight a word then over type to change it.</li> <li>- Use 'find' and 'replace' to change a word used a lot.</li> <li>- To drag and drop texts, pictures or files to move it into a new position.</li> <li>- To add speech bubbles to add extra information.</li> <li>- Use spelling and grammar checkers to correct mistakes.</li> <li>- To edit photos by; removing blemishes, adjusting contrast and blurring parts to highlight main focus.</li> <li>- To create and edit a video on a movie making app (including adding audio effects).</li> <li>- To show an awareness of audience when creating pieces of work for presentation.</li> <li>- To evaluate my work and the work of others to increase its effectiveness.</li> <li>- To select media to download, import and export to and from the internet.</li> </ul> <p><b>Vocabulary:</b> Highlight, over type, find, replace, drag, drop, spell check, grammar check, edit, blemish, contrast, brightness, blur, edit, video, transition, pan, zoom, download, upload, attachment, content, graphics, manipulate.</p>

**NC Objective  
Programming**

**Skill:**

- To modify a programme to achieve specific goals.
- To put programming commands into a sequence to achieve a specific outcome.
- To include a sequence of commands or blocks in an appropriate order in an algorithm
- To test my programme and recognise when I need to debug it.
- To tinker with repeat commands, to develop an understanding of how these functions.
- To predict what a programme with repeats will do.
- To use repeat commands. (to use repetition in programmes)

**Vocabulary:**

Object, tinker, action, output, control, repetition, selection, programming, goals, design, write, programmes, experiment, test, debug, predict, event, sequencing, sequence, repeat

**Skill:**

- To work with others to plan an online project.
- To break-up a problem into smaller parts with others (decomposition).
- To decompose a problem by: designing e.g. storyboard, writing, debugging, and presenting a programme
- To continue testing for further bugs.
- To tinker with variables and develop an understanding of how these function.
- To experiment with variables.
- To set/change a variable value appropriately.
- To tinker with selection commands, to develop an understanding of how they function.
- To modify selection in my programming by using the 'if' command on Scratch.
- To modify selection to accomplish specific goals.
- To modify a programme on Scratch to simulate a simple physical system.
- To modify a programme in Scratch (or similar) in which the user has to provide some input.
- To modify a programme that accepts keyboard input and produces on-screen output. e.g. an answer to a question on screen, or by using key presses or the mouse. The programme could be a simple game or a set of questions and typed responses.
- To continue to use sequence and repetition in programmes.

**Vocabulary:**

Object, action, input, output, control, event, sequencing, sequence, variable, selection, programming, goals, design, write, repetition, programmes, if command, experiment, test, debug, predict, repeat, modify. Selection- is the programming structure through which a computer executes one or other set of instructions according to whether a particular condition is met. You can build selection into a sequence of instructions.

<p><b>NC Objective</b> <b>E-Safety</b></p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To talk about what makes a secure password and why they are important.</li> <li>- To protect my personal information when I do different things online.</li> <li>- To use the safety features of websites as well as reporting concerns to an adult.</li> <li>- To recognise websites and games appropriate for my age.</li> <li>- To make good choices about how long I spend online.</li> <li>- To ask an adult before downloading files and games from the Internet.</li> <li>- To post positive comments online.</li> <li>- To know that taking text directly from websites is stealing</li> <li>- To understand the internet contains facts, fiction and opinion and can distinguish between them</li> <li>- To know that all school computers are networked so that they can share information</li> <li>- To know that not everyone may be honest online</li> <li>- To know how to respond to unpleasant online communication via email, message and chat</li> </ul> <p><b>Vocabulary:</b> Secure, protect, website, files, games, network, share information, Email, message, images, shared area</p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To choose a secure password when I am using a website.</li> <li>- To talk about the ways I can protect myself and my friends from harm online.</li> <li>- To use the safety features of websites as well as reporting concerns to an adult.</li> <li>- To know that anything I post online can be seen by others.</li> <li>- To choose websites and games that are legally appropriate for my age.</li> <li>- To help my friends make good choices about the time they spend online.</li> <li>- To talk about why I need to ask a trusted adult before downloading files and games from the Internet.</li> <li>- To comment positively and respectfully online</li> <li>- To know that information on the internet might not be accurate or reliable</li> <li>- To understand what copyright is and that it exists for all music, images and videos</li> <li>- To know that cyber-bullying is unacceptable</li> <li>- To understand that online communication tools are different in school to at home</li> <li>- To take responsibility for my own actions online</li> </ul> <p><b>Vocabulary:</b> Report concerns, age-appropriate, legal, download, commenting, copyright, cyber-bullying, wired, wireless, networks</p>
<p><b>NC Objective</b> <b>Data Handling</b></p>	<p>There are opportunities to link Computing with other areas of the National Curriculum - such as:</p> <ul style="list-style-type: none"> <li>• Data handling in the Maths and Science Curriculum</li> </ul>	<p>There are opportunities to link Computing with other areas of the National Curriculum - such as:</p> <ul style="list-style-type: none"> <li>• Data handling in the Maths and Science Curriculum</li> </ul>

Skill	By the end of Year 5	By the end of Year 6
<p><i>NC Objective Technology in our lives</i></p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To describe different parts of the internet eg- websites</li> <li>- To use different online communication tools for different purposes eg: TEAMS, ZOOM</li> <li>- To use a search engine to find appropriate information and check its reliability.</li> <li>- To recognise and evaluate different types of information I find on the World Wide Web.</li> <li>- To describe the different parts of a web page</li> </ul> <p><b>Vocabulary:</b> App, technology, computer, iPad, keyboard, remote control, laptop, screen, type, digital, respectfully, safely, create, organise, manipulate, retrieve, communication, collaboration, systems, World Wide Web, network, webpage.</p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To explain the different internet services and their purposes eg: search engines.</li> <li>- To describe how information is transported in the internet.</li> <li>- To select an appropriate tool to communicate and collaborate online.</li> </ul> <p><b>Vocabulary:</b> App, technology, computer, iPad, keyboard, remote control, laptop, screen, type, digital, respectfully, safely, create, organise, manipulate, retrieve, communication, collaboration, systems, World Wide Web, network, webpage.</p>
<p><i>NC Objective Multimedia</i></p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To enhance my work using text, photo, sound and video editing tools.</li> <li>- To apply the skills, I have already developed using a range of technological resources.</li> <li>- To consider of the purpose and effectiveness when creating and editing my work.</li> <li>- To support others in developing and editing their work.</li> <li>- To manipulate sound by using audio editing software i.e. audacity.</li> <li>- To create a presentation choosing an effective colour scheme, having a neat and consistent design, use transitions, animate objects, adding appropriate music and use bullet points to summarise ideas.</li> </ul> <p><b>Vocabulary:</b> Refine, animate, audio, edit, linear order, transition, bullet point, design, communicate, publish, sequence, broadcast, software.</p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To explain why I have chosen particular tools to present my ideas.</li> <li>- To use web-based research skills to source tools, content and other resources.</li> <li>- To identify and use cloud storage/ online drive to save work.</li> <li>- To evaluate the usefulness of a webpage.</li> <li>- To create a printed flyer/brochure.</li> <li>- To create a website using a web design package/app, navigated in a non-linear order by; using a consistent design and colour scheme, embed content, add hyperlinks, design a home page and sub-pages.</li> </ul> <p><b>Vocabulary:</b> Website, hyperlinks, homepage, sub-page, non-linear, embedded, scheme, cloud storage, drive storage, research, shooting, editing.</p>

<p><b>NC Objective Programming</b></p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To add my own variables to a programme.</li> <li>- To explore the use of the timer action/command.</li> <li>- To use a variable to create a timer.</li> <li>- To write more complex programmes leading to a varying outcome (variables).</li> <li>- To include a variable to increase programming possibility.</li> <li>- To refine a procedure using repeat commands to improve a programme. – abstraction</li> <li>- To include an exit condition for my repeat command (e.g. repeat...until...).</li> <li>- To use sketching to design a programme.</li> <li>- To reflect on and evaluate my design.</li> <li>- To create code that conforms to my design.</li> <li>- To decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a programme. (decomposition).</li> <li>- To decompose a problem by: designing e.g. storyboard; writing (including debugging); and presenting a programme</li> <li>- To <u>create</u> a programme in Scratch (or similar) in which the user has to provide some input.</li> <li>- To <u>create</u> a programme that accepts keyboard input and produces on-screen output.</li> <li>- To change an input to my programme to achieve a different output.</li> <li>- To use selection in my programme to accomplish specific goals.</li> <li>- To include ‘if’ and ‘then’ selection commands to select an action.</li> <li>- To use logical reasoning to detect and debug mistakes in my programme.</li> </ul> <p><b>Vocabulary:</b> Design, programmes, goals, debug, physical systems, modify, decompose, decomposition, systematic, sequence, selection, repetition, variables, input, output, logical reasoning, algorithms, errors, simulation, abstraction</p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To deconstruct (decompose) a problem into smaller steps, recognising similarities to solutions used before.</li> <li>- To plan a solution to a problem using decomposition.</li> <li>- To take a complex problem, identify component parts, use decomposition to break a problem down and then plan how to solve the problem by working through the elements identified.</li> <li>- Projects could include developing a computer game or creating a website.</li> <li>- To develop my own simulation of a simple physical system on screen.</li> <li>- To code using Scratch (or similar) programme to simulate a simple physical system.</li> <li>- This could be in the form of a simple animation or an on-screen prototype for a product made in design and technology.</li> <li>- To evaluate the effectiveness and efficiency of an algorithm (abstraction).</li> <li>- To continually test the programming of the algorithm (debugging).</li> <li>- To recognise when to use a variable to achieve a required output.</li> <li>- To use a variable to stop a programme.</li> <li>- To create loops using the timer and if/else statements. (variables and selection)</li> <li>- To use different inputs (including sensors) to control a device or onscreen action and predict what will happen.</li> <li>- To use logical reasoning to detect and correct errors in algorithms and programmes.</li> <li>- To plan/design a programme before coding to anticipate the variables that will be required to achieve the desired effect.</li> <li>- To follow through my plans to create a programme.</li> <li>- To debug when things don’t run as expected.</li> <li>- To explain how to organise code in a programme into functions to make it easier to read.</li> <li>- To attribute variables to user input.</li> <li>- Be aware of the need to code for all possibilities (variables) when using user input.</li> </ul> <p><b>Vocabulary:</b> Design, programmes, goals, debug, physical systems, sensor, test, decompose, decomposition, systematic, sequence, selection, action, device, simulation, repetition, variables, input, output, logical reasoning, timer, algorithms, errors</p> <p>Abstraction: It involves filtering out – essentially, ignoring - the characteristics that we don’t need in order to concentrate on those that we do.</p>
--	---	--



<p><b>NC Objective</b> <b>E-Safety</b></p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To protect my password and other personal information.</li> <li>- To explain why I need to protect myself and my friends and the best ways to do this, including reporting concerns to an adult.</li> <li>- To know that anything I post online can be seen, used and may affect others.</li> <li>- To link spending too much time online or persistently playing an online game with mental health wellbeing.</li> <li>- To explain the importance of communicating kindly and respectfully.</li> <li>- To discuss the importance of choosing an age-appropriate website or game.</li> <li>- To explain why I need to protect my computer or device from harm.</li> <li>- To know which resources on the Internet I can download and use.</li> <li>- To understand some undesirable adults may use various techniques to make contact and illicit personal information and know how to cope</li> <li>- To know not to publish other people's pictures or tag without permission</li> <li>- To understand social media is illegal to join under the age of 13</li> <li>- To understand that online environments have security settings to protect the user</li> <li>- To recognise reasons why people publish content that is not accurate, understand the need to check validity of a website</li> <li>- To identify and ignore or cancel unwanted advertising in the form of pop-ups, videos and banners</li> <li>- To find the report and block buttons on commonly used websites</li> <li>- To know not to open emails from people I don't know</li> <li>- To understand the internet is global</li> </ul> <p><b>Vocabulary:</b> Age-appropriate, undesirable adult, to illicit information, publish, tag, permission, social media, security settings, user, content, block, global, validity of website, pop-up, privacy policy, cyber-bullying.</p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>- To protect my password and other personal information.</li> <li>- To explain the consequences of sharing too much personal information online.</li> <li>- To support friends to protect themselves and make good choices online, including reporting concerns to an adult.</li> <li>- To explain the consequences of spending too much time online or on a game.</li> <li>- To explain the consequences to myself and others of not communicating kindly and respectfully.</li> <li>- To protect a computer or device from harm on the Internet.</li> <li>- To know that filtering images and videos can depend on the settings at school or at home</li> <li>- To select UK and international search options</li> <li>- To use a range of sources to check validity and recognise different view points</li> <li>- To understand Wiki's are multi-author documents that are not always verified</li> <li>- To understand some sites are designed to persuade and influence</li> <li>- To know what online grooming is</li> <li>- To understand undesirable adults use the internet to make contact and groom young children and know how to report suspicious activity.</li> </ul> <p><b>Vocabulary:</b> Filtering, advertising, pop-ups, UK , International, Wiki's, Web, Website extensions: (org, net, ac, gov, co.uk, .com, https-used for a secure transaction), digital content, algorithms, groom, search, sources, make good choices, consequences of sharing too much online</p>
<p><b>NC Objective</b> <b>Data Handling</b></p>	<p>There are opportunities to link Computing with other areas of the National Curriculum - such as:</p> <ul style="list-style-type: none"> <li>• Data handling in the Maths and Science Curriculum</li> </ul> <p>There are opportunities to link Computing with other areas of the National Curriculum - such as:</p> <ul style="list-style-type: none"> <li>• Data handling in the Maths and Science Curriculum</li> </ul>	