National Curriculum Objectives and progression of skills

NC Objectives	Year 3	Year 4	Year 5	Year 6
Design, write and **debug programs** that accomplish specific goals, including controlling or simulating physical systems; solve problems by **decomposing** them into smaller parts Use logical reasoning to explain how some simple **algorithms** work and to detect and **correct errors** in algorithms and programs Use **sequence**, **selection**, and **repetition** in programs; work with **variables** and various forms of input and output	LOGO ● Use arrows to control an onscreen object ● LOGO language - fd, bk, lt, rt, with numbers, reset, setpensize, colour ● Edit code, eg to change colours ● Test, modify and debug sample and own code. SCRATCH ● Combine blocks in Scratch, explore and experiment ● Copy and understand example code ● Test, modify and debug sample and own code.	LOGO ● Type code in LOGO ● Use repeat and nested repeat ● Copy and understand example code ● Write code to draw intended shape SCRATCH ● Use repeat, forever, if, then blocks. can explain in own words. ● Make sprites interact with each other and/or colour	LOGO ● Use procedures and variables ● can use variables, inputs and broadcasting; can change own ideas into code SCRATCH ● Calculate score ● Variables code.	LOGO ● Use LOGO to plan and draw a picture with several elements ● Use a range of commands independently ● Procedures ● Use procedures and variables Design efficient code SCRATCH ● Create own Scratch project. ● Independently debug more complex code;
Understand computer **networks** including the **internet**; how they can provide multiple **services**, such as the world wide web; and the opportunities they offer for **communication** and **collaboration**	● Log onto the school system and find programs and shortcuts ● Find, open and save files on the school system. and in j2e/Google apps ● Log in to email and receive and reply to email. ● Use a range of online tools and websites	● Uses clear and sensible names for files and folders ● Save different versions of work ● Decide to keep/delete/change eg photos/videos ● Insert media from computer, internet ● Insert hyperlinks ● Enter an email address and send email ● Comment usefully on a blog or shared document	● Create folders and use them effectively; ● Upload and download files to/from online storage eg j2e and Google Drive, Scratch. ● Send an attachment and save a received attachment to computer. ● Share an online document by entering email. ● Collaborate effectively on a shared document.	● Use tags to classify files online; ● Transfer files between different places and devices: iPad, laptop, j2e, Google Drive ● Use online spaces to collaborate and comment to enhance learning.
Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	● Search within j2e5 for pictures ● Use the word kids or ks2 when searching.	● Uses multiple keywords from questions to search. ● Know some trusted websites on a range of topics ● Use tools to collect notes, eg mindmaps ● Search for file types, eg png	● Use CTRL-F to find words on a page ● Search for images marked for reuse ● Use Google search tools ● Reference websites used	● Use searching techniques, eg "" exact phrases, - to exclude.

NC Objectives	Year 3	Year 4	Year 5	Year 6
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**	● Select items ● Resize, rotate, reposition items ● Change effects ● Use editing tools ● Duplicate items ● Search for media within j2e ● Combine text and images ● Use different presentation tools ● Change elements, eg font, colour, size, position, rotate, crop ● Create frequency tables and graphs ● Use grid and snap tools	● Recap and practise Y3 skills and… ● Attention to detail ● Choosing fonts for a purpose ● Layering items ● Hyperlinks between files or pages of a document ● Include different elements, some chosen for appropriate effect ● Start to show attention to detail - lining up, consistent style; use group tool; planning eg storyboard ● Enter data into a prepared spreadsheet, create a graph and add a conclusion. ● Use and create branching databases ● Use a prepared spreadsheet to investigate the effect of changing variables.	● Recap and practise previous skills and... ● Attention to detail appropriate for Intended audience ● Use websites to generate content eg cooltext ● Eye of detail ● Make deliberate, reasoned and appropriate choices of layout, style, media, transitions; accepting and offering advice	● Recap and practise previous skills and... ● Y4+5 skills and... ● Use advanced search ● Search for file types ● producing polished work; critically evaluate own work to improve it ● can plan a questionnaire, set up a database eg google form and analyse results; can develop a simple spreadsheet model to explore a real life situation.
Use technology **safely**, **respectfully** and **responsibly**; recognise acceptable/unacceptable **behaviour**; identify a range of ways to **report** concerns about content and contact.	● Learn a username and password ● Keep passwords secret ● Tell an adult if unsure about anything ● Understand the risks of unwanted contact on social media and how to keep safe ● Knows how to report abuse	● Knows to set secure passwords and change them sometimes ● knows that some internet content is false, commercial, illegal, harmful, not good and is wary; knows how to search for royalty free content eg images and music. ● copyright	● checks information for reliability; beginning to recognise opinion and bias; understands that some content is not usable, even if acknowledged; understands the benefits and pitfalls of social networking sites ● evaluates their own use of online tools and how they present themselves online. ● Quotes sources in own work	● Apply safety skills to a Range of accounts and new technologies ● Email ● Contribute to an online community, ie Google Classroom

Extra objectives	Year 3	Year 4	Year 5	Year 6
Learning attitudes and growth mindset	● Is positive when exploring new tools ● Has a "hands down and have a go" attitude. ● Is sociable - ready to help, accepts help	● Shows resilience by keeping on trying ● Explores the menu system of a new tool ● Is Curious, exploring different ways of tackling a problem ● ses success criteria to improve	● Actively uses success criteria to learn and evaluate learning ● Acts on advice and self reflection ● Collaborate	● Shows resourcefulness in solving own problems by locating help; ● Finds and learns a new tool for a particular purpose - shares with others ● Independent problem solving ● Help others ● Reflect critically
Typing, keyboard and mouse skills	● Learn home keys and correct hand position ● Use a mouse to click, double click, drag and drop, RH click	● Typing - learn all letters ● Fluent mouse use ● Use control key for copy, paste, cut, undo. can type using correct fingers during practice	● Develop typing fluency ● Use a range of keyboard shortcuts - bold, underline, centre, find and print screen	● Further develop typing fluency Type numbers and symbols ● Begin to use touch typing in written work