Communicating in the Digital World
Digital communication and sharing information/Producing and editing media

	Foundation Stage	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
DOCUMENTS	Develop mouse control – clicking, dragging etc; use simple drag/drop matching software	Format text size, font colour and font style	Add an image to a document	Use different font sizes, colours and effects to communicate meaning for a given audience; insert and edit simple tables	Use layout and design features such as text boxes, columns and borders for different purposes and audiences.	Develop and use criteria to evaluate the design and layout when evaluating a range of online resources	Independently select and import text, images, video and sounds (including their own) using a range of digital devices and prepare them for presentation using ICT to create their own effects)
	Enter letters using the keyboard to write their name and the space bar to enter spaces in-between words. Use the arrow keys to move the cursor and objects on the screen.	Create a newspaper headline or a poster heading	Use templates and other appropriate support to create simple presentations	Use page setup to select different page sizes and orientations	Use appropriate editing tools to ensure their work is clear and error free (spell checker, thesaurus, find and replace)	Develop the use of hyperlinks to produce interactive presentations or websites; understand how pages link together and the need for clarity; produce a diagram to show links between pages	
		Use templates and other appropriate support to create simple presentations		Use appropriate editing tools to ensure their work is clear and error free (spell checker, thesaurus, find and replace)	Create a range of hyperlinks to produce a non-linear, interactive presentation.	Enhance a presentation by acquiring, storing and combining images from different sources	
Photographs and Images	Add captions to photographs, graphics (using prepared list)	Add a caption to a photograph or image	Use a digital camera or video recorder to take a video		Select and import images from digital cameras, graphics packages and other sources and prepare for use (cropping, editing, resizing).	Create images using a range of techniques to develop a particular style, refining and making appropriate changes	Independently select and use a variety of appropriate devices to record sounds; upload and download projects (eg learning platform, MP3 player, mobile phone, computer etc)
	Create simple talking pages (eg, Clicker)	Use a digital camera to take a photograph	Edit a photograph in a simple way		Use images from cameras, scanners and the internet and begin to use paint packages or photo-manipulation software to change an image		Create own sounds and compositions to add to their presentations/films/images/photos; use ICT to produce music for a specific purpose (eg, length, style, genre etc)
	Use a digital camera and download images	Use sounds, images and text in presentations	Develop a variety of skills using a range of tools and techniques to communicate a specific idea or artistic style/effect	Select suitable text, sounds and images from electronic resources and use it appropriately in their own work			Make effective use of transitions and animations in video editing software and presentations; consider effect on the audience and the appropriateness of such devices
Video	Capture simple short video clips		Create a simple animation	Select specific areas of a painting, copy and paste to make repeating patterns; Resize elements; investigate symmetry and reflection tools	Create a short animated sequence from captured images in simple storyboarding software to communicate a specific idea	Plan and create a short animated sequence to communicate an idea, using a storyboard and timeline	Combine stills, video and sound using a video editing package; export movies in a variety of formats and use them in multimedia presentations
				Discuss/evaluation quality of own and others' captured images and videos; make decisions (keep, delete, change)	Capture video footage into simple movie editing software; create a short film to convey meaning	Develop greater control over the digital stills and video camera and use the enhanced tools (macro, landscape, zoom)	

SOUND	Use sound recorders and use buttons to play back recorded sounds (remotely and on computer	Use various sound recorders (at and away from the computer) to record and play back sounds	Explore a range of electronic music and sound devices including keyboards, software and different peripherals		Locate, edit, use sound files in sound editing software; import music and stills into video editing software and add to film projects	Independently select, edit and combine sound files; manipulate the sounds (e.g., altering speed or adding echo) considering audience and purpose	
	Compose music using icons to represent musical phrases	Use software to explore sound and musical phrases for a purposes	Create simple sounds using a computer				
PAINT	Use simple painting program (brush, fill, colour, stamp)	Create a picture in a paint package					
Design	Use object based graphics program to create a scene by dragging objects into place on a background (e.g. My World, Whiteboard software, add stamps, clip art or motifs to a scene)	Develop a variety of skills using a range of tools and techniques to communicate a specific idea or artistic style/effect				Use an object-based graphics package to design and develop a plan to find a solution to a specific problem (e.g., design a child's bedroom, garden, zoo, map, playground, crazy golf course)	
		Save work in own folder	Open your work, change it and save it with another name			Evaluate their design and make improvements (peer and self-evaluation)	Evaluate their design and make improvements (peer and self-evaluation)

Exploring the Digital World
Collecting, analysing, evaluating real world data/problem solving

	Foundation Stage	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Use simple online sorting activities on the internet	Use appropriate buttons to move around a website eg, menus, hyperlinks	Use simple search tools in a prepared database to answer simple questions	Collect appropriate information, enter it into a database and use the database to answer simple questions.	Generate and compare different charts and graphs (using graphing software, database or spreadsheet) and understand that different graphs are used for different purposes	Design questions using key words to search a large pre-prepared database. Use complex searches (and/or, is greater/less than) to search data when looking for relationships and patterns in data	Construct, refine and interpret frequency tables, bar charts with grouped discrete data and line graphs; interpret pie charts
	Search for and choose images from the internet	Search for information on the internet	Sort and classify a group of items by asking simple yes/no questions and use a branching database program to sort and identify items	Raise questions and translate into search criteria	Understand what a database is by creating a physical one (eg, index cards to sort and search or pupils ordered by name/height etc); consider how much easier it is using ICT for data handling	Check for accuracy by checking data, using different views, search tools, and graphing; identify and correct inaccuracies	Use a range of sensors (temperature, light, sound, heart rate monitors, light gates etc) in a variety of situations in the course of scientific investigations
	Find small amounts of information on websites or CD ROMS using hyperlinks and menus	Discuss how ICT makes some jobs much easier when using data (eg, on-line shopping, supermarket tills	Take part in whole class discussions of a data logger monitoring live data (eg, changing sound levels over time)	Investigate changes in the environment using a data logging device to capture measurements (sound, light, temperature) continuously over time	Determine the data needed to solve a specific problem; organise, present, analyse and interpret the data in tables, diagrams, tally charts, pictograms and bar charts, using ICT where appropriate	Select an appropriate search engine to find information related to their topic; develop strategies for finding information, checking for bias and different viewpoints (using different keywords, cross checking with other sources etc); discuss how internet search engines find, store and rank data	Develop skills to question where web content might originate and understand that this gives clues to its authenticity/reliability (by looking at web address, author, linked pages etc)
	Use a digital microscope to look more closely at objects	Develop simple classification skills by carrying out sorting activities (physically as well as using ICT)	Enter text into a search engine and URLs in the address bar to find specific given website	Develop key questions and key words to search for specific information to answer a problem (eg, 'where could we go on holiday?' would become 'holiday destinations'	Develop skills to know which data needs to be collected and design a questionnaire to aid its collection	Discuss issues of copyright and downloading material (eg, MP3s, images, videos etc); reference sources used in their work	
	Use simple pictograms and block graphs	Make a pictogram or simple graph to compare things, answer simple questions, save and retrieve the data	Enter text (or simple key question) into a safe search engine to find information on a given topic. Start to evaluate whether or not the information is useful.	Save and retrieve information through the use of Favourites, History and Save As	Investigate changes in the environment using a data logging device to capture measurements (sound, light, temperature) continuously over time	Use the pre-programming features of data logging software and devices to set up a specific data capture, perhaps overnight; use graphical information to answer questions and solve simple problems	

	Create simple pictograms and/or block graphs		Discuss how ICT makes some jobs much easier when using data (eg, on-line shopping, supermarket tills		Use a data logger to "snap-shot" a series of readings in an appropriate investigation	Find ways of validating information to ensure it is correct (eg, does any data from datalogger look spurious?)	
					Skim read and sift information to check its relevance and modify search strategies if necessary		
					Understand the dynamics of search engines and know that there are different search engines – some within sites and some for the whole of the Internet (eg, Google)		
					Use researched informed purposefully (copy, paste, edit etc) with consideration to copyright		

| Shaping the Digital World | | | | | | |
| Modelling and simulations/control and programing | | | | | | |

	Foundation Stage	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Play simple adventure games or explore simulations (eg At the doctor's, At the vet's)	Use a mouse, pen or finger to move and place items accurately on a screen to explore a simulation and talk about what happens	Make choices in an adventure game or simulation	Be able to explore the effect of changing variables. Use them to make and test predictions to support learning in other subject areas (eg, science simulation to make a plant grow)	Use a spreadsheet to record data and produce graphs	Enter labels and numbers into a spreadsheet; enter formulae into a spreadsheet and modify the data (simple calculations + - x ÷)	Explore a range of ICT games (including multi-player) in a safe environment (eg, Pora Ora)
	Play with a variety of electronic toys and old remote controls/mobile phones etc	Use various on-line games/simulations to know that ICT can help in other areas of learning	Make simple changes to an online simulation or game	Discuss use of simulations and compare with reality	Use a spreadsheet to explore simple patterns	Identify and enter the correct formulae into cells, modify the data, make predictions of changes and test them; use more advanced formulae (sum, average, mode etc)	Evaluate ready-made games, apps and simulations before designing own to know what makes a good game
	Use simulation/role play software as an impetus for their own investigations; begin to compare reality with virtual worlds (Simple City)	Create/follow instructions (algorithms) to navigate programmable toys (and other children) around a course	Make predictions when programming devices (actual or on-screen) estimating distances and turns.	Solve open-ended problems with a floor robot, screen turtle and other programmable devices	Evaluate some safe online games to know what makes a good game. What does the game need? What would their own game look like? What would it do?	Change data and formulae in a spreadsheet to answer 'what if' questions and check predictions	How are games written? Which programming languages are used? Find some examples of game code. Are there common elements of code?
	Program a simple floor robot to carry out a short sequence of steps	Explore outcomes when individual buttons are pressed on a robot	Debug a program or correct errors	Use Logo programming algorithms (pen up/pen down, repeat commands etc) to create shapes/patterns. Test to detect errors and modify where necessary	Make a pattern by breaking the instructions into smaller parts (decomposing). Eg, create a procedure (eg, for a square in Logo) then create a sequence that draws the procedure, rotates x degrees and draws another square and so on	Use a spreadsheet to draw a graph to help answer specific questions	Design own game, simulation or app and use a programming tool to create it for use by others (eg Scratch, Kodu and Appshed – apps don't have to be published)
	Play with simple toys that respond to a single command; use a remote control to operate devices (TV, robot, toys)	Input algorithms into a program to create a simple shape on screen or to control a device	Explain what an algorithm is and how they are used in programs		Use some basic features to design and write a program to change or move a character in an application (eg Pivot animator, ZU 3D)	In Logo and/or control work, develop more complex flow diagrams/procedure tomake things happen; refine procedures to improve desired outcomes	View code in their own games to start to understand how commercial games are created (eg Kodu)
		Discuss ways simulations and games have changed the way people spend their leisure time	Use various on-line games/simulations to know that ICT can help in other areas of learning		Create simple flow diagrams to control physical devices (real or screen simulations) using outputs only (eg, flowol, Coco)	Write control sequences which use outputs and inputs (using if...then...type commands) to control events in response to conditions; use sub routines to decompose the problem into smaller parts (eg, use	

					Flowol, CoCo; explain the logical steps of the flow diagram in the design process	
			Start to know that games and simulations can help them learn about the world around them.				

E-safety							
	Foundation Stage	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Talk about some of the school e-safety rules, eg, not using internet unless adult is present	Talk about some of the school e-safety rules, eg, not using internet unless adult is present	Know the school Acceptable Use Policy and the SMART on-line rules: Safe/Meeting/Accepting/Reliable/Tell			Use a range of sources to evaluate information found on-line, consider plausibility and develop strategies to make judgements on the sources used eg, cross-referencing a number of websites	Have an awareness of the need to check a resource has copyright or can be legally downloaded free of charge from the internet and whether it can be re-used
	Know to tell someone if they view content they think is inappropriate or upsetting	Know what to do if they see something inappropriate or upsetting on-line (eg, minimise screen and tell an adult)				Understand the impact of an individual sending or uploading inappropriate content to a wider audience	Check the validity of a website, eg, look for the author via the 'Contact Us' or 'About Us' area of the website, or through 'Who is' websites that list the author's details
	Know they can share content with others	Talk about what you like about your favourite websites	Begin to evaluate web sites by giving opinions about preferred sites.	Be aware that taking text or images from some sites may be stealing other people's work	Know when an email should not be opened or messages ignored	Understand wikis are multi-authored and can be hard to verify (eg Wikipedia)	Know the importance of not uploading other people's images or content without their permission and be aware of the implications of file sharing
	Talk about what you like about your favourite websites	Know that you can be diverted from a website through a link to a new website, advertising or pop-up	Know that anyone can create a web site and it is sometimes difficult to know if information is true		Know that when they are online they are creating a digital footprint	Demonstrate safe practice when selecting images or content for uploading to an online space	
	Make sure an adult always knows you are using a computer or other digital device (eg, phone, i-pad) at home or at school		Identify some risks presented by new technologies inside and outside of school (eg, online games, mobile phone texting and cyberbullying)	Understand that the internet contains fact, fiction and opinion and begin to distinguish between them	Know that the aim of many sites is to sell something or gain personal information and can be linked to and from other sites	Understand the need for privacy settings on any social networking sites (and that those privacy settings may not be observed by online 'friends' who can use/share/download your images/content)	
	'		Identify where to go for help			Understanding some malicious adults use the internet to make contact and "groom" young children; know how to report any suspicions (Think You Know REPORT ABUSE page)	
			Name any personal information that should be kept private			Know when to reply to a group email using 'reply all' and when to 'cc'	Know that many commercial providers have sophisticated ways of trying to sell on the internet (eg, Hoax 'You have a virus' message box to sell antivirus software or pop-up links from other sites)
						Recognise acceptable/unacceptable online behaviour and that online bullying is unacceptable; identify a range of ways to report concerns about content and contact	
						Understand the different audience of a school learning platform and an online social network	
						Know a digital footprint will last a lifetime and some of it can be tracked by others	