Tenacres First School - Computing skills progression

Area	Year 1	Year 2	Year 3	Year 4	Year 5 / 6
E-safety and Digital Citizenship	Understand why it is important to use and keep their personal passwords private. .		Understand there are rules to keep them safe when communicating electronically, work within these rules understanding what they are and why they exist.		Explore options for privacy levels in a range of online settings (e.g. online gaming, social media)
	Discuss personal safety when using the Internet, including at home		Know of other methods of communication and discuss the importance of personal safety at home as well as in school		Clearly identify levels of online risk.
	Understand and abide by internet safety rules.				Identify and ppropriately use social networking sites/features, making good judgements.
	Know how to report inappropriate content to a responsible adult.				Use technology safely, respectfully and responsibly.
	Know who to turn to if they feel threatened in any way				
	Show an awareness of the range of devices and tools they encounter in everyday life	Show an awareness of a range of inputs to a computer (IWB, mouse touch screen, microphone, keyboard, etc)	Begin to show discernment in their use of computing devices and tools for a particular purpose and explain why their choice was made.	Make choices about the devices and tools they use for specific purposes and explain them in relation to the context. Begin to show an awareness of specific tools used in working life.	Evaluate the tools available to them including any that are unfamiliar or new and use them to solve problems. Demonstrate an awareness of the appropriateness of outcomes depending on choices regarding tools and devices.
	Make simple choices to control a simple simulation program.	Children are able to play an adventure game and use a simple simulation, making choices and observing the results.	Use models and simulations to find things out and solve problems. Recognise that simulations are useful in widening experience beyond the classroom.	Set up and use a spreadsheet model to explore patterns and relationships. Make predictions.	• Set up and use their own spreadsheet, which contains formulae to investigate mathematical models. Ask "what if …" questions and change variable in their model. • Understand the need for accuracy when creating formulae and check regularly for mistakes, by questioning results. • Relate their use of spreadsheets to model situations to the wider world.
		Their conversation shows they understand that computers are good at replicating real life events and allowing them to explore contexts that are otherwise not possible.	Make simple use of a spreadsheet to store data and produce graphs.	Know how to enter simple formulae to assist this process.	
Programming	Control simple everyday devices to make them produce different outcomes.	Control a device, on and off screen, making predictions about the effect their programming will have.	Design, write and run executable programs using a programming language on and off screen	Design, write and run executable programs using a programming language	Independently create sequences of commands to control devices in response to sensing (i.e. use inputs as well as outputs).
	Explore outcomes when individual or combinations of buttons are pressed on a programmable toy/floor robot	Produce a storyboard of instructions (algorithm)	Be able to debug an algorithm (set of instructions) and correct any errors	Use repetition in Scratch to make them more efficient	Design, build, test, evaluate and modify the system; ensuring that it is fit for purpose.
	Sequence a series of instructions (algorithms) to create a larger program	Sequence a series of instructions (algorithms) to create a larger program on screen.	Create simple algorithms using inputs and outputs e.g. keyboard, mouse etc.	Use 'selection' in a programming sequence i.e. use 'if… then… else…' type actions or statements e.g. if a	

	Create a simple on screen sequence.	Sequence a series of instructions (algorithms) to create a larger program		character is touching a wall then bounce back, else move forward.	
Creativity and Multimedia	Work with others and with support to contribute to a digital class resource which includes text, graphic and sound.	Generate their own work, (with help where appropriate with multimedia) combining text, graphics and sound. Save and retrieve and edit their work.	Record and present information integrating a range of appropriate media combining text and graphics in printable form and sound and video for on-screen presentations which include hyperlinks. Begin to show an awareness of the intended audience and seek feed-back.	Use advanced tools in word processing / DTP software such as tabs, appropriate text formatting, line spacing etc appropriately to create quality presentations appropriate for a known audience.	Multimedia work shows restrained use of effects that help to convey meaning rather than impress.
	Use a range of simple tools in a paint package / image manipulation software to create / modify a picture.	Use a range of tools in a paint package / image manipulation software to create / modify a picture to communicate an idea	Manipulate digital images using a range of tools in appropriate software to convey a specific mood or idea.	Create a short animated sequence from captured images in simple storyboarding software, to communicate a specific idea. Capture "footage" from cameras into simple movie editing software. Arrange, trim and cut clips to create a short film that convey meaning. Import music and stills into video editing software and add to film projects.. Add simple titles and credits. .	Use images that they have sourced / captured / manipulated as part of a bigger project (eg presentation or document). Select specific areas of a painting, copy and paste to make repeating patterns. Resize elements. Investigate symmetry and reflection tools.
	• Chose suitable sounds from a bank to express their ideas.	Create a simple animation to tell a story.	Create a simple recording, selecting and importing already existing music and sound effects as well as recording their own.	Create multiple track compositions that contain a variety of sounds.	Create and share more sophisticated podcasts and consider the effect that their podcasts will have on the audience.
	Record short speech. Compose music from icons using Groovy Music.				
		Produce a simple presentation incorporating sounds the children have captured, or created.			
Communication and Computer Networks	Contribute ideas to a class email to another class / school etc.	Work collaboratively by email to share and request information.	Share ICT work they have done electronically by email, school blog, or uploading to authorised sites. Comment on others too.		
	As a class exercise children explore information from a variety of sources (electronic, paper based, observations of the world around them, etc.).	Children use a search engine to find specific relevant information to use in a presentation for a topic.	Send emails to communicate an idea.	Show an awareness of where passwords are critical in everyday use (e.g. parents accessing bank details)	Show an understanding of the school network and how it links computers to resources in school and beyond.
	They show an awareness of different forms of information	They save and retrieve their work.	Begin to show an awareness that computers can be linked to share resources	Show an understanding that their password is the key to accessing a personalised set of resources and files (e.g. My Documents).	Compare this with other networks they may encounter at home or in the wider world (e.g. banks)
	Show an awareness that what they create on a computer or tablet device can be shown to others via	Begin to show an awareness that computers can be linked to share resources	Show an awareness that not all the resources/tools they use are	Perform a search using different search engines and check the results against each other,	Show an understanding of how filtering and monitoring tools affect their use of the school network and Internet and compare this with their experience of access outside school.

	another device (e.g. printer, projector, Apple TV)		resident on the device they are using.	explaining why they might be different.	
		Use websites and demonstrate an awareness of how to manage their journey around them (e.g. using the back/forward button, hyperlinks)	Begin to show an understanding of URLs.	Show an awareness of the need for accuracy in spelling and syntax to search effectively.	Use collaborative tools and e-mail showing a sensitivity for this type of remote collaboration and communication
Handling Data	As a class or individually with support, children use a simple pictogram or painting program to develop simple graphical awareness / one to one correspondence.	Use a graphing package to collect, organise and classify data, selecting appropriate tools to create a graph and answer questions.	Children use a simple database (the structure of which has been set up for them) to enter and save and save information on a given subject.	They talk about their experiences of using ICT to process data compared with other methods.	Independently solve a problem by planning and carrying out data collection, by organising and analysing data involving complex searches using a database, and by drawing conclusions and presenting findings.
		Enter information into a simple branching database, database or word processor and use it to answer questions.	They follow straight forward lines of enquiry to search their data for their own purposes.	Enter information and interrogate it (by searching, sorting, graphing etc). Excel or	The need for accuracy is demonstrated and strategies for spotting implausible data are evident
		They save, retrieve and edit their work	They talk about their experiences of using ICT to process data compared with other methods.	Begin to reflect on how useful the collected data and their interrogation was and whether or not their questions were answered.	Children should be able to talk about issues relating to data protection and the need for data security in the world at large (eg health, police databases).
			Begin to use a data logger to sense physical data (sound, light, temperature).	Use a data logger confidently, connected to the computer or remotely, to capture continuous or intermittent data readings	Children are able to identify their own opportunities for data logging and carry out their own experiments.
				Interpret the results and use these in their investigations.	They check and question results and are able to spot trends in data and identify when problems may have occurred.