Thomas Buxton Primary School

Computing – Progression of Skills

	NURSERY	RECEPTION	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Information Technology (e-safety)	Can use the internet with adult supervision to choose and play games.	Can use the internet with adult supervision to find and retrieve information that is of use to them. Talk about good & bad choices in real life e.g. taking turns, saying kind things, helping others, telling an adult if something upsets you Talk about good and bad choices when using websites – being kind, telling a grown up if something upsets us & keeping ourselves safe by keeping information private	Recognising technology in school and using it responsibly. Understand they need to follow certain rules to remain safe when visiting places online. Begin to understand that if you creative something you own it Learn that many websites ask for information that is private & discuss how to responsibly handle such requests	Identifying IT and how its responsible use improves our world in school and beyond. Explore what cyber-bullying means & what to do when they encounter it Understand that keyword searching is an effective way to locate online information & how to select keywords to produce the best search results Realise that not all websites are equally good sources of information	Agree sensible e-safety rules for the classroom Choose a secure password for age-appropriate websites Discuss what actions could be taken if they are uncomfortable or upset online e.g. Report Abuse button Talk about what games they enjoying playing and what good choices are when playing games e.g. content, screen time	The internet Recognising the internet as a network of networks including the WWW, and why we should evaluate online content. Agree sensible e-safety rules for the classroom Comment and provide positive feedback on the work of classmates in school or online, or the work of others online	Sharing information Identifying and exploring how information is shared between digital systems. Discuss their own personal use of the Internet and choices they make Discuss the importance of keeping an adult informed about what you're doing online, and how to report concerns Explore using the safe and responsible use of online communication tools e.g. blogs, messaging	Internet communication Recognising how the WWW can be used to communicate and be searched to find information. Discuss the importance of keeping an adult informed about what you're doing online, and how to report concerns Explore using the safe and responsible use of online communication tools e.g. blogs, messaging

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Hardware and processing	Seeks to acquire basic skills in turning on and operating some digital equipment Plays with water to investigate "low technology" such as washing and cleaning	Can create content such as a video recording, stories and/or draw a picture on a screen. Uses ICT hardware to interact with age appropriate computer software. Can navigate touch-capable technology (with support)	Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally.	Using a computer as a tool to explore rhythms and melodies, before creating a musical composition.	Desktop publishing Creating documents by modifying text, images, and page layouts for a specified purpose	Audio editing Capturing and editing audio to produce a podcast, ensuring that copyright is considered. -	Video editing Planning, capturing, and editing video to produce a short film.	Webpage creation Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation.
Communications and Networks		Knows that information can be retrieved from digital devices and the internet	Using a computer to create and format text, before comparing to writing non-digitally.	Capturing and changing digital photographs for different purposes.	Connecting computers Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks.	The internet Recognising the internet as a network of networks including the WWW, and why we should evaluate online content.	Sharing information Identifying and exploring how information is shared between digital systems.	Internet communication Recognising how the WWW can be used to communicate and be searched to find information.

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Algorithms	Uses pipes, funnels and other tools to carry/ transport water from one place to another.	Plays with a range of materials to learn cause and effect, for example, makes a string puppet using dowels and string to suspend the puppet. Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images	Writing short algorithms and programs for floor robots, and predicting program outcomes.	Creating and debugging programs, and using logical reasoning to make predictions.	**Events and actions in programs** Writing algorithms and programs that use a range of events to trigger sequences of actions.	**Repetition in shapes** Using a text-based programming language to explore count-controlled loops when drawing shapes.	**Selection in physical computing** Exploring conditions and selection using a programmable micro-controller.	Variables in games Exploring variables when designing and coding a game.

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Programming	Operates mechanical toys, e.g. turns the knob on a wind-up toy or pulls back on a friction car	Completes a simple program on electronic device.	Designing and programming the movement of a character on screen to tell stories.	Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.	**Sequencing sounds** Creating sequences in a block-based programming language to make music	**Repetition in games** Using a block-based programming language to explore count-controlled and infinite loops when creating a game.	**Selection in quizzes** Exploring selection in programming to design and code an interactive quiz.	**Sensing** Designing and coding a project that captures inputs from a physical device.

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KEY
- Lesson starters/mini lesson
- Main lesson objective
- Peer/Self assessment or plenary

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Data and Data representation		Collect information as photos or sound files Use a simple pictogram or set of photos to count and organise information Use a simple pictogram or set of photos to count and organise information	Exploring object labels, then using them to sort and group objects by properties. Look at how data is representing digitally	Collecting data in tally charts and using attributes to organise and present data on a computer.	**Branching databases** Building and using branching databases to group objects using yes/no questions.	Data logging Recognising how and why data is collected over time, before using data loggers to carry out an investigation.	Flat-file databases Using a database to order data and create charts to answer questions.	Introduction to spreadsheets Answering questions by using spreadsheets to organise and calculate data.

Computing – **Progression of Skills**

Primary themes	Computing systems and networks	Programming	Data and information	Creating media
Taxonomy strands	Computer systems Computer networks	Programming Algorithms Design and development	Data and information	Creating media Design and development
	Effective use of tools			
	Impact of technology			
	Safety and security			