Backworth Park Primary School Knowledge and Skills Progression Grid Computing

	Digital Literacy – Online Safety	Digital Literacy – Multimedia	Computer Science	Information Technology
Nursery	Recognise that some content is not appropriate for their age with support (e.g. Youtube. Know what to do if they find something they are unsure of.		Explore their environment using a range of equipment. Explore simple icons, buttons or shortcuts. Explore the functions of a simple programming tool Explore available applications and software to create original content.	Become aware that information can be collected using ICT. Understand the appropriate vocabulary according to equipment available.
Reception	Begin to find things on the internet with support. Understand that some content is not appropriate for their age. Know what to do if they find something they are unsure of (including identifying people who can help). Knows not to share private information online (such as name, school and address.	Explore and interact with their environment using a range of equipment. (e.g. using an iPad to record videos and photos). Experience other devices such as CD players, sound buttons, cameras. Use a simple art program. Collect information using ICT. (e.g. take photographs, voice recordings, text).	Recognise and use simple icons, buttons or shortcuts. Use the functions of a simple programming tool (e.g. beebot). Begin to plan and test instructions (move the beebot forward). Play computer games. Move objects around on a screen. Use available applications and software to create original content sometimes for a planned outcome.	Develop familiarity with the letters of the keyboard so that they are able to type their name. Recognise and use simple keyboard commands (space bar, enter, delete and backspace. Understand the appropriate vocabulary according to equipment available. Can say what IT is used for at school and at home.
Year 1	Know that some information (full name, address, birthday etc. . .) is 'special' as it applies to them. Know who to tell when worried about using the internet e.g. a trusted adult.	Experience other devices such as sound recording devices, music players, video recording equipment and digital cameras. Use a simple art program. Use shape tools to draw.	Play an increasing range of computer games. Move objects around on a screen. Repeat a series of actions for a purpose.	Develop familiarity with the keyboard – spacebar, backspace, shift, enter.

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	Talk about the differences between real and online experiences. Understand that there is a right and wrong way to communicate and this may be different depending on who you are communicating with.	Take digital photos.	Recognise things around them which respond to signals and instructions. Move and control a programmable toy.	
Year 2	Complete online-safety activities. Discuss and understand the school's SMART rules. Explore what cyberbullying means and how to deal with it. Understand that not everyone they meet online is automatically trustworthy. Explore online-safety resources.	Make a simple slideshow e.g. using digital photos. Add and resize a picture. Use stop animation to create an animation sequence.	Talk about how everyday devices can be controlled. Know that devices and actions on screen may be controlled by sequences of actions and instructions. Create a sequence of precise instructions e.g. Create a right-angled shape on screen. Create a sequence of instructions to control a programmable robot to carry out a predetermined route to include direction, distance and turn. Control a range of control devices such as cameras, sound recorders and other devices. Predict what might happen when controlling.	Recognise different ways of using ICT and decide which to use. Use keywords to find information on the Internet.
Year 3	Understand what is personal information and the importance of creating a powerful password. Understand the importance of showing respect online and how to achieve this.	Create patterns using digital photographic software.	Explain what computer programming is and how algorithms work. Control an object to move along a route. Follow a code sequence e.g. using Scratch cards.	Cut, copy and paste between applications. To type and design a printable document and use a spell checker.

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			Identify computing components e.g. router, processor, inside an iPad.	
Year 4	Explore what it means to be responsible and respectful online to become good digital citizens. Understand what cyberbullying is. Understand how to keep themselves safe online when gaming and how to report concerns.	Edit digital images. Make improvements to make animation more exciting. Use online software to develop 3D worlds.	Use conditional statements (if… then) within an animation Use repeat events in programs. Understand how stimulations and robots are used.	Describe uses of technology and the impact of technology Understand copyright and plagiarism
Year 5	Understand how the internet works including data packets, IP address, switch, router, DNS, cookies. Use a search engine to find information relating to a specific topic. Understand the importance of checking reliability of search information. Understand what spam is, the form it takes, and identify strategies for dealing with it. Know how to protect computers from digital threats such as viruses. Explore how it feels to be cyber bullied, how cyberbullying is similar to or different to bullying and learn strategies for handling cyber bullying if it arises.	Use drawing tools for a specific purpose. Create, edit and manipulate short videos. Use software to design and create 3D images. Collaborate to design and create a webpage.	Design a computer game including scoring and/or timers using Scratch. Use conditional statements, loops, variables and broadcast messages. Create a game where sprites interact with each other. Evaluate the effectiveness of games.	Identify components of a computer and how different computers are linked via a network.
Year 6	Understand how search engines work e.g. using Google and evaluating the credibility of information online.	Identify potential risks and explain how to avoid them.	Detect and correct errors in programs.	Understand computer networks including the internet e.g. tracing servers around the world.

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	Understand the need to use social networking sites respectfully, responsibly and sensibly. Know how to share appropriate content and comments on social networks. Understand how publishing information creates a digital footprint.	Measure accurately to centimetres and grams. Make informed choices of tools and materials based on function and aesthetics. Justify their choices of tools, materials and techniques. Use digital photography software to edit and manipulate images to create artistic effects. Use video software, including voice overs, to create an instructional video.	Use block programming language to programme a device to respond to different stimuli.	Describe how information is passed between computers and networks. To create an interactive activity by adding hyperlinks Save documents and images into different formats for different purposes. Add, amend and combine different forms of information in different ways. Understand and use simple functions of a spreadsheet.