# Backworth Park Primary School Knowledge and Skills Progression Grid Computing

| | Digital Literacy – Online Safety | Digital Literacy – Multimedia | Computer Science | Information Technology |
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| Nursery | Recognise that some content is not appropriate for their age with support (e.g. Youtube.<br><br>Know what to do if they find something they are unsure of. | | Explore their environment using a range of equipment.<br><br>Explore simple icons, buttons or shortcuts.<br><br>Explore the functions of a simple programming tool<br><br>Explore available applications and software to create original content. | Become aware that information can be collected using ICT.<br><br>Understand the appropriate vocabulary according to equipment available. |
| Reception | Begin to find things on the internet with support.<br><br>Understand that some content is not appropriate for their age.<br><br>Know what to do if they find something they are unsure of (including identifying people who can help).<br><br>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).<br><br>Experience other devices such as CD players, sound buttons, cameras.<br><br>Use a simple art program.<br><br>Collect information using ICT. (e.g. take photographs, voice recordings, text). | Recognise and use simple icons, buttons or shortcuts.<br><br>Use the functions of a simple programming tool (e.g. beebot).<br><br>Begin to plan and test instructions (move the beebot forward).<br><br>Play computer games.<br><br>Move objects around on a screen.<br><br>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.<br><br>Recognise and use simple keyboard commands (space bar, enter, delete and backspace.<br><br>Understand the appropriate vocabulary according to equipment available.<br><br>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.<br><br>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.<br><br>Use a simple art program.<br><br>Use shape tools to draw. | Play an increasing range of computer games.<br><br>Move objects around on a screen.<br><br>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.<br><br>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.<br><br>Move and control a programmable toy. | |
| Year 2 | Complete online-safety activities.<br><br>Discuss and understand the school's SMART rules.<br><br>Explore what cyberbullying means and how to deal with it.<br><br>Understand that not everyone they meet online is automatically trustworthy.<br><br>Explore online-safety resources. | Make a simple slideshow e.g. using digital photos.<br><br>Add and resize a picture.<br><br>Use stop animation to create an animation sequence. | Talk about how everyday devices can be controlled.<br><br>Know that devices and actions on screen may be controlled by sequences of actions and instructions.<br><br>Create a sequence of precise instructions e.g. Create a right-angled shape on screen.<br><br>Create a sequence of instructions to control a programmable robot to carry out a predetermined route to include direction, distance and turn.<br><br>Control a range of control devices such as cameras, sound recorders and other devices.<br><br>Predict what might happen when controlling. | Recognise different ways of using ICT and decide which to use.<br><br>Use keywords to find information on the Internet. |
| Year 3 | Understand what is personal information and the importance of creating a powerful password.<br><br>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.<br><br>Control an object to move along a route.<br><br>Follow a code sequence e.g. using Scratch cards. | Cut, copy and paste between applications.<br><br>To type and design a printable document and use a spell checker. |

| | | | Identify computing components e.g. router, processor, inside an iPad. | |
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| Year 4 | Explore what it means to be responsible and respectful online to become good digital citizens.<br><br>Understand what cyberbullying is.<br><br>Understand how to keep themselves safe online when gaming and how to report concerns. | Edit digital images.<br><br>Make improvements to make animation more exciting.<br><br>Use online software to develop 3D worlds. | Use conditional statements (if… then) within an animation<br><br>Use repeat events in programs.<br><br>Understand how stimulations and robots are used. | Describe uses of technology and the impact of technology<br><br>Understand copyright and plagiarism |
| Year 5 | Understand how the internet works including data packets, IP address, switch, router, DNS, cookies.<br><br>Use a search engine to find information relating to a specific topic.<br><br>Understand the importance of checking reliability of search information.<br><br>Understand what spam is, the form it takes, and identify strategies for dealing with it.<br><br>Know how to protect computers from digital threats such as viruses.<br><br>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.<br><br>Create, edit and manipulate short videos.<br><br>Use software to design and create 3D images.<br><br>Collaborate to design and create a webpage. | Design a computer game including scoring and/or timers using Scratch.<br><br>Use conditional statements, loops, variables and broadcast messages.<br><br>Create a game where sprites interact with each other.<br><br>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.<br><br>Know how to share appropriate content and comments on social networks.<br><br>Understand how publishing information creates a digital footprint. | Measure accurately to centimetres and grams.<br><br>Make informed choices of tools and materials based on function and aesthetics.<br><br>Justify their choices of tools, materials and techniques.<br><br>Use digital photography software to edit and manipulate images to create artistic effects.<br><br>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.<br><br>To create an interactive activity by adding hyperlinks<br><br>Save documents and images into different formats for different purposes.<br><br>Add, amend and combine different forms of information in different ways.<br><br>Understand and use simple functions of a spreadsheet. |