

Computing Progression of Knowledge and Skills Document

<u>Subject Area</u>	<u>Concept/Aspect</u>	<u>Nursery</u>	<u>Reception</u>	<u>Year 1</u>	<u>Year 2</u>
Humankind	Communication	Skill -Use a variety of digital technology, such as smartphones and tablets. Core Knowledge -Digital technology is used at home and at school for communicating with others.	Skill -Explain that digital technology is used in the home and at school for communication. Core Knowledge -Digital technology is used in all parts of everyday life. Some technology is used to communicate with others. -Tablets and smartphones can be used for lots of different purposes including talking with others, playing games, taking photographs and videos and watching video clip	Skill -Explain simply that digital technology can be used to connect with others locally and globally. Core Knowledge -Digital technology is used in all parts of everyday life, such as using a tablet to play a game or a microwave to heat food. Some of this digital technology can be used to connect with others locally, such as sharing digital work in the classroom, or globally, such as using Skype on a computer to speak to a friend overseas.	Skill -Use digital technology appropriately to communicate and connect with others locally and globally. Core Knowledge -Digital technology, such as email, social media platforms or blogs, can be used by individuals to communicate and connect with others but should be used appropriately, including using language that is not hurtful or disrespectful to others, having adult supervision or following the school's acceptable use policy.
Humankind	Staying Safe	Skill -Begin to talk about what they would do if they saw something online that makes them sad, scared or worried. Core Knowledge - Know that appropriate adults can help to keep them safe online.	Skill -Describe what they would do if they saw something online that made them sad, scared or worried. Core Knowledge -It is essential to tell an adult if they accidentally see something online that upsets, scares or worries them. -Know that if they see something online that makes that sad, scared or worried, they should tell an adult straight away.	Skill -Recognise that some websites ask for private information and discuss how to handle these requests and where to go for help and support. Core Knowledge -Private information includes names, addresses, dates of birth or schools and this information should not be shared online. Any concerns or worries should be reported to a trusted adult.	Skill -Stay safe online by choosing websites that are appropriate to visit (based on the confidence you have in the author(s) of the website) and know where to go for help and support when they have concerns about content or contact on the internet and other online technologies. Core Knowledge - Some websites are not age-appropriate and so it is important to tell a trusted adult about any concerns or worries.
Humankind	Digital Citizenship	Skill -Engage safely with age-appropriate hardware and software.	Skill - Ask to use digital devices to create work in a safe and responsible way.	Skill -Recognise that work they have created belongs to them. Core Knowledge	Skill -Recognise that information put online leaves a digital footprint.

Computing Progression of Knowledge and Skills Document

				-When work is saved electronically, it needs to have a name that identifies it and is easily remembered.	Core Knowledge - A digital footprint is the information that exists on the internet, following a user's online activity.
Processes	Physical interactions	Skill - Input simple instructions, with support, into floor robots and other technological toys. Core Knowledge -When buttons on technological toys are pushed, they will behave in different ways.	Skill -Input simple instructions to make technological toys operate, including floor robots and onscreen sprites. Core Knowledge - Floor robots will only move in the direction they are programmed to go in. -Technological toys need instructions to operate in a particular way. Errors in instructions can be checked and fixed.	Skill -Observe and explore outcomes when buttons are pressed in sequences on a robot and identify and debug a simple algorithm. Core Knowledge -An algorithm is a sequence of steps, instructions or rules that is used to perform a specific task. Algorithms can be followed by people or digital equipment. For algorithms to achieve the end goal, instructions have to be accurate and followed sequentially. Mistakes are called bugs and finding and fixing them is called debugging.	Skill -Plan and enter a sequence of instructions using a robot, specifying distance and angle of turn. Core Knowledge - Robots can be programmed to follow a series of instructions using algorithms.
Creativity	Creation	Skill -Begin to use software to create images and record sounds and videos. Core Knowledge - Computers and tablets can be used to make pictures and images.	Skill -Use age-appropriate software to create images and record sounds and videos. Core Knowledge -Tablets and recording devices can be used to take videos. -Computers and tablets can be used to make pictures and images.	Skill -Select appropriate software to complete given tasks using text, images, audio and video clips. Core Knowledge -Software is the programs that are used by a computer, such as word processing software, presentation software or image editing software. It can be used to create and combine digital content for different audiences and purposes.	Skill - Create and edit multimedia components for a range of tasks. Core Knowledge -Multimedia components, such as text, images, audio and video clips, can be created, edited and combined to create content for a range of tasks.
Investigation	Data and computational thinking	Skill -Operate technological toys, including floor robots.	Skill	Skill Follow a sequence of steps to solve a problem and create instructions that	Skill -Create a simple solution that tests an idea, predict the outcome and test

Computing Progression of Knowledge and Skills Document

		Core Knowledge - When buttons on technological toys are pushed, they will behave in different ways.	-Input simple instructions to technological toys, including floor robots and onscreen sprites. Core Knowledge -Technological toys need instructions to achieve an outcome. - Floor robots will only move in the direction they are programmed to go in. - A route is a journey from one place to another.	others can follow (for floor robots or onscreen sprites). Core Knowledge - An algorithm is a sequence of steps, instructions or rules that is used to perform a specific task. Algorithms can be followed by people or digital equipment. For algorithms to achieve the end goal, instructions have to be accurate and followed sequentially.	and debug the solution to ensure that it works. Core Knowledge - Computers' behaviour can be predicted and the outcome tested by following the steps of an algorithm and recognising that the computer will follow instructions precisely.
Investigation	Networks	Skill -Appreciate that work created on a digital device can be saved and accessed by others.	Skill -Recognise that digital work can be saved, shared and accessed from other devices.	Skill -Show awareness that work they create and save on a computer or tablet can be shown to others using another device. Core Knowledge - When work is saved electronically, it can be stored on a hard drive, a shared drive called a server or online so that it can be opened on the same device or another device at a later time.	Skill -Recognise that computers can be linked to share resources and digital content can be stored, organised and retrieved. Core Knowledge - Computers and devices can be linked in different ways, such as through a network, the internet and Bluetooth. This allows for the sharing of resources.
Materials	Hardware	Skill -Be aware of a range of computing hardware Core Knowledge -Smartphones, tablets and computers are computing hardware.	Skill -Explore how to use different computing hardware. Core Knowledge - Smartphones, tablets, laptops, computers and floor robots are all types of computing hardware.	Skill - Use a range of computing hardware for different purposes. Core Knowledge - Hardware is the parts of a computer that you can touch, such as a mouse, tablet or floor robot.	Skill - Use computing hardware in different ways to collect data. Core Knowledge - Hardware, such as cameras, scanners and data loggers, can be used to collect data.
Materials	Software	Skill -Begin to use age-appropriate software.	Skill -Use age-appropriate software independently.	Skill - Begin to use a range of software for different purposes.	Skill - Use different types of software and identify their purposes.

Computing Progression of Knowledge and Skills Document

		Core Knowledge - Software, including games, can be used on mobile phones, tablets and computers.	Core Knowledge - Software is the programs we use on computers and mobile devices.	Core Knowledge - Software is the programs that are used by a computer, such as word processing software, presentation software or image editing software.	Core Knowledge - Each type of software, such as word processing, presentation and image editing, can be used for different purposes, including writing reports and creating slide shows or posters.
Nature	Real World	Skill - Begin to notice how data can be collected and recorded electronically. Core Knowledge - Computers and tablets can collect, show and store information.	Skill - Notice how data can be collected and represented electronically. Core Knowledge - Data can be collected and shown using digital technology.	Skill - Observe how collected data can be represented electronically. Core Knowledge - Data can be collected manually or using digital technology, such as data loggers. It can be represented in different electronic forms, including charts and tables.	Skill - Use data handling skills to represent data digitally. Core Knowledge - Software is available that can be used to represent collected data digitally, such as in a pictogram or bar chart.
Place and space	Digital World	Skill - Notice things that people do on digital devices, such as playing games and communicating with others. Core Knowledge - People use digital devices for many reasons, including communicating and playing games.	Skill - Talk about things that people do on digital devices, such as playing games, communicating with others and watching online videos. Core Knowledge - People use digital devices for many reasons, including playing games, communicating, finding information and watching videos.	Skill - Understand that there are online tools that can help people to create content and communicate. Core Knowledge - Software available online, such as email, social media platforms or blogs, can be made by individuals to communicate their ideas.	Skill - Recognise some uses of the internet, in simple terms and some of its benefits and drawbacks. Core Knowledge - The internet is used to connect computers or devices around the world. The internet is an important part of life for many people. However some people spend too much time on devices, which can have a negative impact on people's mental and physical health.
Place and space	Real World	Skill - Use a variety of digital technology, such as technological toys and mobile devices.	Skill - Talk about and use digital technology with confidence and independence, giving examples of how it is used in the home, at school and beyond.	Skill - Recognise the ways digital technology can be used in the classroom, home and community. Core Knowledge	Skill - Recognise why digital technology is used in the classroom, home and community. Core Knowledge

Computing Progression of Knowledge and Skills Document

		Core Knowledge - Digital technology is used at home and at school. Examples include smartphones and tablets.	Core Knowledge - Digital technology is used in all parts of everyday life. Examples include smartphones, tablets, microwaves and washing machines.	- Technology is used in many ways to do different jobs, such as using an interactive whiteboard in the classroom, using a tablet to do online shopping at home or using scanners in a shop in the community.	- Digital technology is used in everyday life and can be used to support learning and connect with others.
Comparison	Digital Searching	Skill - Seek support from adults to retrieve digital content including online.	Skill - Navigate to find digital content, in digital folders and online, with supervision.	Skill - Search for or retrieve digital content, including images and information, in digital folders and online, with supervision. Core Knowledge - To search for digital content, the user needs to know the file name, file type and folder name or keywords and search terms to find the correct information.	Skill - Recognise and demonstrate that some information can be found online and some offline. Core Knowledge - A device is online if it is connected to the internet or a network and can communicate with other devices. A device is offline if it is not connected to the internet or network and cannot connect to other devices.