

Computing Skills Progression

Big Idea	Aspect	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Humankind	Communication	Use a variety of digital technology, such as smartphones and tablets.	Explain that digital technology is used in the home and at school for communication.	Explain simply that digital technology can be used to connect with others locally and globally.		Explain the advantages and disadvantages of communicating electronically and strategies for preventing issues.	Explain actions to report and prevent cyberbullying.	Demonstrate appropriate online behaviour and apply a range of strategies to protect themselves and others from potential online dangers, inappropriate behaviour and bullying.	Recognise that sending intimate images and content and using offensive language online is a risk, has a permanent online trail (digital footprint) and is not appropriate behaviour.
	Staying safe	Begin to talk about what they would do if they saw something online that makes them sad, scared or worried.	Describe what they would do if they saw something online that made them sad, scared or worried.	Recognise that some websites ask for private information and discuss how to handle these requests and where to go for help and support.	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.	Describe simple rules for sharing images and data safely.		Discuss the impact that digital content can have and why it is important to discuss their use of technology with an adult.	Identify the benefits and risks of devices broadcasting the user's location and of giving personal information to different organisations.
	Digital citizenship	Engage safely with age-appropriate hardware and software.	Ask to use digital devices to create work in a safe and responsible way.	Recognise that work they have created belongs to them.	Recognise that information put online leaves a digital footprint.	Compose clear and appropriate messages in online communities.	Identify appropriate behaviour when contributing to collaborative online projects for learning.	Cite all sources when researching and explain why sources should be provided.	Recognise that digital content can be edited online.
Processes	Physical interactions	Input simple instructions, with support, into floor robots and other technological toys. Assign	Input simple instructions to make technological toys operate, including floor robots and onscreen sprites.	Observe and explore outcomes when buttons are pressed in sequences on a robot and identify and debug a simple algorithm.	Plan and enter a sequence of instructions using a robot, specifying distance and angle of turn.	Design, write and enter a sequence of instructions using a robot or other device to achieve specific outcomes, debugging if necessary.	Use sensors to 'trigger' an action, such as sound or movement.	Use a range of sensors to control a physical system.	Design, write and debug a program to control a physical system, which may include output devices, such as motors, lights and buzzers.
Creativity	Creation	Begin to use software to create images and record sounds and videos.	Use age-appropriate software to create images and record sounds and videos.	Select appropriate software to complete given tasks using text, images, audio and video clips.	Create and edit multimedia components for a range of tasks.	Combine a range of text, images, animation and audio and video clips for given purposes.	Manipulate a range of text, images, sound or video clips and animation for given purposes.	Create, select and combine a range of texts, images, sound clips and videos for given purposes.	Select, use and combine a variety of software, including internet services, to meet a goal.

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Investigation	Data and computational thinking	Operate technological toys, including floor robots.	Input simple instructions to technological toys, including floor robots and onscreen sprites.	Follow a sequence of steps to solve a problem and create instructions that others can follow (for floor robots or onscreen sprites).	Create a simple solution that tests an idea, predict the outcome and test and debug the solution to ensure that it works.	Identify and use repetitions or loops in a program sequence, predicting outcomes and noticing and correcting any mistakes.	Describe and demonstrate a simple program that contains a looping element and how part of a program may need repetition.	Design, write and debug simple sequences of instructions (algorithms), including IF, THEN and OTHERWISE commands, to decide if something is true or false.	Demonstrate how programs run in an exact order by following a sequence of instructions, and test and debug programs.
	Networks	Appreciate that work created on a digital device can be saved and accessed by others.	Recognise that digital work can be saved, shared and accessed from other devices.	Show awareness that work they create and save on a computer or tablet can be shown to others using another device.	Recognise that computers can be linked to share resources and digital content can be stored, organised and retrieved.	Recognise that saved work can be retrieved from another device on the same network.	Recognise that the school network links computers to allow the sharing of resources.	Compare the ways in which work can be shared on a school network with the ways work is shared at home or in the wider world.	Name some of the positives and negatives of communicating with others online.
Materials	Hardware	Be aware of a range of computing hardware.	Explore how to use different computing hardware.	Use a range of computing hardware for different purposes.	Use computing hardware in different ways to collect data.	Use familiar computer hardware to successfully complete a task.	Use new and unfamiliar computing hardware.	Apply computing skills using unfamiliar hardware to solve a problem successfully.	Identify how using different hardware can increase creativity and productivity.
	Software	Begin to use age-appropriate software.	Use ageappropriate software independently.	Begin to use a range of software for different purposes.	Use different types of software and identify their purposes.	Use a range of different software to successfully complete a project.	Apply computing skills to use new computing software.	Apply computing skills to create content using unfamiliar programs or apps.	Identify how a new piece of software or an app can increase creativity.
Nature	Real world	Begin to notice how data can be collected and recorded electronically.	Notice how data can be collected and represented electronically.	Observe how collected data can be represented electronically.	Use data handling skills to represent data digitally.	Log light level, temperature or sound level using a program or app.	Log light level, temperature or sound level using a program or app, over a period of time.	Use sensing tools or apps for an investigation and interpret the findings.	Plan data handling investigations and use the outcomes from data collection to show the findings.
Place and space	Digital world	Notice things that people do on digital devices, such as playing games and communicating with others.	Talk about things that people do on digital devices, such as playing games, communicating with others and watching online videos.	Understand that there are online tools that can help people to create content and communicate.	Recognise some uses of the internet, in simple terms and some of its benefits and drawbacks.	Use appropriate tools (software, websites and apps) to collaborate and communicate safely online.		Create an online collaborative project for a specific purpose, sharing documents and appropriately setting permissions for other group members.	Exchange online communications, making use of a growing range of available features and being aware of security settings.
	Real world	Use a variety of digital technology, such as technological toys and mobile devices.	Talk about and use digital technology with confidence and independence, giving examples of how it is used in the home, at school and beyond.	Recognise the ways digital technology can be used in the classroom, home and community.	Recognise why digital technology is used in the classroom, home and community.	Use digital technology in different ways in the classroom, home and community.	Use digital technology in different ways in the classroom, home and community to achieve a set goal.	Select, use and combine appropriate technology to create a solution that will have an impact on others.	Combine a range of technology to achieve a particular outcome.

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Comparison	Digital searching	Seek support from adults to retrieve digital content including online.	Navigate to find digital content, in digital folders and online, with supervision.	Search for or retrieve digital content, including images and information, in digital folders and online, with supervision.	Recognise and demonstrate that some information can be found online and some offline.	Explain that the World Wide Web contains lots of web pages about different subjects that can be searched.	Explain that when searching online, some web pages may contain adverts or popups that encourage people to click on them.	Discern where web content might originate from and recognise that this gives clues to its authenticity, reliability and security.	Critically evaluate search engine results and identify factors that may affect ranking, such as how long the site has existed, the number of links to the site and whether the organisation has paid to have their site promoted.

