



St Chad's CofE Nursery and Infant School – Computing Progression Map



Aims

The national curriculum for computing aims to ensure that all pupils:

- *can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation*
- *can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems*
- *can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems*
- *are responsible, competent, confident and creative users of information and communication technology*

Statutory Content (Early Years Framework / National Curriculum)	Early Years Foundation Stage	Key Stage 1
	<p>Understanding the World Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children's personal experiences increases their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children's vocabulary will support later reading comprehension.</p> <p>Non-statutory: <i>Birth to Five Matters:</i> Children require access to a range of technologies, both digital and non-digital in their early lives. Exploring with different technologies through play provides opportunities to develop skills that children will go on to develop in their lifetimes. Investigations, scientific inquiry and exploration are essential components of learning about and with technology both digitally and in the natural world. Through technology children have additional opportunities to learn across all areas in both formal and informal ways. Technologies should be seen as tools to learn both from and with, in order to integrate technology effectively within early years practise.</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none">• understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions• create and debug simple programs• use logical reasoning to predict the behaviour of simple programs• use technology purposefully to create, organise, store, manipulate and retrieve digital content• recognise common uses of information technology beyond school• use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies



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Progression Criteria	Nursery computer user	Reception computer user	Year 1 computer user	Year 2 computer user
	<ul style="list-style-type: none">Anticipate repeated sounds, sights and actions, e.g. when an adult demonstrates an action toy several timesKnow how to use action reaction toys e.g. press, tap, swipe, wind, squeeze, turn, push, pull, slide and switchKnow how to fill, pour, transport and empty waterExplore electronic toys e.g. keyboard, camera and recording devicesFollow instructions to use technology and equipment safely	Computer science (coding) <ul style="list-style-type: none">Know how to predict, follow and explain a set of steps/instructions e.g. using Code safariKnow how to complete a level on a game	Computer science (coding) <ul style="list-style-type: none">Know what an algorithm isKnow that an algorithm written for a computer is called a programmeKnow what is wrong with a simple algorithm when the steps are out of order, e.g. KodableWrite my own simple algorithm, e.g. Light botMake logical attempts to debug a program, e.g. A.L.E.X.Read a code and predict what a program may do	Computer science (coding) <ul style="list-style-type: none">Know that an algorithm is a set of instructions to complete a taskKnow that I need to be precise with algorithms so that they can be successfully converted into codeCreate and debug a simple program that achieves a specific purpose, e.g. A.L.E.XShow a growing awareness of the need for logical, programmable stepsWrite a cause and effect sentence of what will happen in a program
		Information technology <ul style="list-style-type: none">Know how to turn on, swipe and create simple drawings, using different types of devices Know how to take a photo and record e.g. on an iPad	Information technology <ul style="list-style-type: none">Sort and collate digital content e.g. use Book Creator to create a digital bookEdit and store digital content	Information technology <ul style="list-style-type: none">Retrieve specific data for conducting simple searchesConfidently create, name, save and retrieve content Use a range of media in my digital content including photos, text and sound
		Digital literacy <ul style="list-style-type: none">Know how to use a simple browser to search for information with the support of an adult e.g. Kiddle	Digital literacy <ul style="list-style-type: none">Know what is meant by technology and can identify a variety of examples both in and out of schoolMake a distinction between objects that use modern technology and those that do notUnderstand the importance of keeping information privateTake ownership of my work and save this in my own private Place e.g. Book Creator book shelf	Digital literacy <ul style="list-style-type: none">Retrieve relevant, purposeful digital content using a search engineApply my learning of effective searching beyond the classroom. They can share their own book, e.g. Book CreatorMake links between technology they see around them, coding and multimedia work they do in school, e.g. animations, interactive code and programs Scratch JRKnow the implications of inappropriate online searchesUnderstand how things are shared electronicallyKnow ways of reporting inappropriate behaviours and content to a trusted adult



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	Online Safety Self-image and identity: <ul style="list-style-type: none">• I can say my name, my friends and my family members names.• I can name safe adults e.g. adults at home and at school.	Online Safety <i>Education for a Connected World: (2020 edition)</i> Self-image and identity: <ul style="list-style-type: none">• I can recognise, online or offline, that anyone can say 'no' / 'please stop' / 'I'll tell' / 'I'll ask' to somebody who makes them feel sad, uncomfortable, embarrassed or upset.	Online Safety <i>Education for a Connected World: (2020 edition)</i> Self-image and identity: <ul style="list-style-type: none">• I can recognise that there may be people online who could make someone feel sad, embarrassed or upset• If something happens that makes me feel sad, worried, uncomfortable or frightened I can give examples of when and how to speak to an adult I can trust and how they can help	Online Safety <i>Education for a Connected World: (2020 edition)</i> Self-image and identity <ul style="list-style-type: none">• I can explain how other people may look and act differently online and offline• I can give examples of issues online that might make someone feel sad, worried, uncomfortable or frightened; I can give examples of how they might get help.
	Online relationships: <ul style="list-style-type: none">• I can name the types of technology I use at home and at school.• I can role-play talking on the phone.	Online relationships: <ul style="list-style-type: none">• I can recognise some ways in which the internet can be used to communicate.• I can give examples of how I (might) use technology to communicate with people I know.	Online relationships: <ul style="list-style-type: none">• I can give examples of when I should ask permission to do something online and explain why this is important.• I can use the internet with adult support to communicate with people I know (e.g. video call apps or services).• I can explain why it is important to be considerate and kind to people online and to respect their choices.• I can explain why things one person finds funny or sad online may not always be seen in the same way by others	Online relationships: <ul style="list-style-type: none">• I can give examples of how someone might use technology to communicate with others they don't also know offline and explain why this might be risky. (e.g. email, online gaming, a pen-pal in another school / country).• I can explain who I should ask before sharing things about myself or others online.• I can describe different ways to ask for, give, or deny my permission online and can identify who can help me if I am not sure.• I can explain why I have a right to say 'no' or 'I will have to ask someone'. I can explain who can help me if I feel under pressure to agree to something I am unsure about or don't want to do. I can identify who can help me if something happens online without my consent.• I can explain how it may make others feel if I do not ask their permission or ignore their answers before sharing something about them online. I can explain why I should always ask a trusted adult before clicking 'yes', 'agree' or 'accept' online
	Online reputation: <ul style="list-style-type: none">• I can use the internet with support from an adult.	Online reputation: <ul style="list-style-type: none">• I can identify ways that I can put information on the internet.	Online reputation: <ul style="list-style-type: none">• I can recognise that information can stay online and could be copied.• I can describe what information I should not put online without asking a trusted adult first.	Online reputation: <ul style="list-style-type: none">• I can explain how information put online about someone can last for a long time.• I can describe how anyone's online information could be seen by others.• I know who to talk to if something has been put online without consent or if it is incorrect



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	Copyright and ownership: <ul style="list-style-type: none"> I can name my own toys, clothes and drawings. 	Copyright and ownership: <ul style="list-style-type: none"> I know that work I create belongs to me. I can name my work so that others know it belongs to me. 	Copyright and ownership <ul style="list-style-type: none"> I can explain why work I create using technology belongs to me. I can say why it belongs to me (e.g. 'I designed it' or 'I filmed it'). I can save my work under a suitable title / name so that others know it belongs to me (e.g. filename, name on content). I understand that work created by others does not belong to me even if I save a copy. 	Copyright and ownership: <ul style="list-style-type: none"> I can recognise that content on the internet may belong to other people. I can describe why other people's work belongs to them
	Privacy and security: <ul style="list-style-type: none"> I can identify some simple examples of my personal information e.g. my name. 	Privacy and security: <ul style="list-style-type: none"> I can identify some simple examples of my personal information (e.g. name, address, birthday, age, location). I can describe who would be trustworthy to share this information with; I can explain why they are trusted. 	Privacy and security: <ul style="list-style-type: none"> I can explain that passwords are used to protect information, accounts and devices. I can recognise more detailed examples of information that is personal to someone (e.g. where someone lives and goes to school, family names). I can explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others. 	Privacy and security <ul style="list-style-type: none"> I can explain how passwords can be used to protect information, accounts and devices I can explain and give examples of what is meant by 'private' and 'keeping things private' I can describe and explain some rules for keeping personal information private (e.g. creating and protecting passwords) I can explain how some people may have devices in their homes connected to the internet and give examples (e.g. lights, fridges, toys, televisions).
	Managing online information: <ul style="list-style-type: none"> I can ask for help to access the internet. 	Managing online information: <ul style="list-style-type: none"> I can talk about how to use the internet as a way of finding information online. I can identify devices I could use to access information on the internet. 	Managing online information: <ul style="list-style-type: none"> I can give simple examples of how to find information using digital technologies, e.g. search engines, voice activated searching). I know / understand that we can encounter a range of things online including things we like and don't like as well as things which are real or make believe / a joke. I know how to get help from a trusted adult if we see content that makes us feel sad, uncomfortable worried or frightened. 	Managing online information: <ul style="list-style-type: none"> I can use simple keywords in search engines. I can demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections). I can explain what voice activated searching is and how it might be used, and know it is not a real person (e.g. Alexa, Google Now, Siri). I can explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'. I can explain why some information I find online may not be real or true
Core Vocabulary	Press, tap, swipe, wind, squeeze, turn, push, pull, switch fill, pour, move, empty Keep safe	App Instruction Make Photo/record Internet Safety <i>Stop, Close, Report</i>	Algorithm Coding Debug Online safety Program Sequence Create Program Objective Store/save Search engine <i>Stop, Close, Report</i>	Algorithm Coding Debug Online safety Program Sequence Cyber bullying Create Organise Store/save Search engine Reporting Acceptable <i>Stop, Close, Report</i>
	Enabling Environments <ul style="list-style-type: none"> Have available robust resources with knobs, flaps, keys or shutters. Incorporate technology resources that children recognise into their play, such as a camera Provide safe equipment to play with, such as torches and walkie-talkies. Let children use machines like the photocopier to copy their own pictures. 			



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	<ul style="list-style-type: none">• Provide a range of materials for children to “stain” and have a go at washing, rinsing and drying outside in the sunshine.• Provide a range of pipes, funnels, containers water wheels and water for children to play with.• Provide a range of materials and objects to play with that work in different ways for different purposes, for example, egg whisk, torch, other household implements, pulleys, construction kits.• Provide a range of programmable toys for children to play with, as well as equipment involving ICT, such as computers, touchscreen devices and internet-connected toys		
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Computer Science	Information Technology	Digital Literacy	Online-Safety
Autumn 1	Autumn 2	Autumn 2	Each half term
Spring 1	Spring 2	Spring 2	Each half term