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*

	Early Years Foundation Stage	Key Stage 1
Statutory Content (Early Years Framework / National Curriculum)	**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. **Non-statutory:** ***Birth to Five Matters***: 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.	Pupils should be taught to: • 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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	Nursery computer user	Reception computer user	Year 1 computer user	Year 2 computer user
Progression Criteria	• Explore a range of materials that work in different ways for different purposes e.g. a torch, construction, utensils • Explore different types of technology and identify how it works e.g. camera, IPad programme, walkie talkie • Know how to use action reaction toys e.g. press, tap, swipe, wind, squeeze, turn, push, pull, slide and switch	**Computer science (coding)** • Know how to predict, follow and explain a set of steps/instructions • Know how to complete a level on a game	**Computer science** • Understand what algorithms are • Create and debug simple programs • Use logical reasoning to predict the behaviour of simple programs • Write my own simple algorithm, e.g. Colouring in a Bird activity. • Make logical attempts to debug a program, e.g. Bubbles activity in 2Code.	**Computer science** • Know that an algorithm is a set of instructions to complete a task. • Create and debug a simple program that achieves a specific purpose e.g. Debug Challenges: Chimp. • Use logical reasoning to predict the behaviour of simple programs • Write a cause and effect sentence of what will happen in a program.
		Information technology • Know how to turn on, swipe and create simple drawings, using different types of devices • Know how to take a photo and record	**Information technology** • Use technology purposefully to create, organise, store, manipulate and retrieve digital content • Edit and store digital content e.g. 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count.	**Information technology** • Organise data using a database such as 2Investigate. • Retrieve specific data for conducting simple searches • Use technology purposefully to create, organise, store, manipulate and retrieve digital content • Confidently create, name, save and retrieve content. • Use a range of media in my digital content including photos, text and sound.
		Digital literacy • Know how to use a simple browser to search for information with the support of an adult e.g. Kiddle, mashcams	**Digital literacy** • Know what is meant by technology and can identify a variety of examples both in and out of school. • Make a distinction between objects that use modern technology and those that do not e.g. a microwave vs. a chair. • Understand the importance of keeping information private. • Take ownership of my work and save this in my own private space such as My Work folder on Purple Mash.	**Digital literacy** • Retrieve relevant, purposeful digital content using a search engine.(dinosaur quiz) • Know the implications of inappropriate online searches. • Understand how things are shared electronically such as posting work to the Purple Mash display board. • Develop an understanding of using email safely by using 2Respond • Know ways of reporting inappropriate behaviours and content to a trusted adult.

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	Online Safety Self-image and identity: • 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** ***Education for a Connected World: (2020 edition)*** Self-image and identity: • 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** ***Education for a Connected World: (2020 edition)*** **Self-image and identity:** • 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** ***Education for a Connected World: (2020 edition)*** **Self-image and identity** • 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: • I can name the types of technology I use at home and at school. • I can role-play talking on the phone.	**Online relationships:** • I can give examples of how I (might) use technology to communicate with people I know.	**Online relationships:** • I can use the internet with adult support to communicate with people I know (e.g. video call apps or services).	**Online relationships:** • 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).
	Online reputation: • I can use the internet with support from an adult.	**Online reputation:** • I can identify ways that I can put information on the internet.	**Online reputation:** • I can recognise that information can stay online and could be copied.	**Online reputation:** • 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
	Copyright and ownership: • I can name my own toys, clothes and drawings.	**Copyright and ownership:** • 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** • I can say why it belongs to me (e.g. 'I designed it' or 'I filmed it'').	**Copyright and ownership:** • I can recognise that content on the internet may belong to other people.
	Privacy and security: • I can identify some simple examples of my personal information e.g. my name.	**Privacy and security:** • I can identify some simple examples of my personal information (e.g. name, address, birthday, age, location).	**Privacy and security:** • I can explain that passwords are used to protect information, accounts and devices.	**Privacy and security** • 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)

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	Managing online information: • I can ask for help to access the internet.	**Managing online information:** • 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:** • 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:** • I can explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'.
Core Vocabulary	Press, tap, swipe, wind, squeeze, turn, push, pull, switch Safe	App Photo/record *Stop, Close, Report*	Algorithm Coding Debug Online safety Program Sequence *Stop, Close, Report*	Algorithm Coding Debug Online safety Program Sequence Cyber bullying *Stop, Close, Report*
	Enabling Environments • 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. • 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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Year group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Bears-N/R-	**Mini mash** **Computer science** 2go, build the house	**Mini mash** **Information technology** Record & photograph, use an Ipad, 2beat, maths city	**Online safety** Chicken Clicken	**Mini Mash** **Computer science** 2count,2pairs	**Mini Mash** **Information technology** Simple city, paint a picture, 2create a story	**Mini Mash** **Digital literacy** Kiddle, Mashcams, arrow keys game.
Crocodiles-R/Y1	**Computer science** 1.1 online safety 1.2 grouping and sorting 1.3 1.4 Lego builders	**Information technology** 1.4 pictograms 1.5 1.8 spreadsheets	**Information technology** 1.6 animated storybooks	**Computer science** 1.5 maze explorers	**Computer science** 1.7 coding	**Digital literacy** 1.9 technology outside of school 1.1- online safety
Flamingos-Yr1/2	**Computer science** 1.6 online safety 1.7 grouping and sorting 1.8 1.4 Lego builders	**Information technology** 1.9 pictograms 1.10 1.8 spreadsheets	**Information technology** 1.6 animated storybooks	**Computer science** 1.5 maze explorers	**Computer science** 1.7 coding	**Digital literacy** 1.9 technology outside of school 1.1- online safety
Elephants-Yr2	**Computer science** 2.1 Coding	**Information technology** 2.3- spreadsheets 2.4 Making Music	**Information technology** 2.4 questioning	**Digital literacy** 2.5 effective searching 2.2 online safety	**Information technology** 2.6 creating pictures	**Information technology** 2.8- presenting ideas.
E safety focus	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
N/R	Self-image and identify Video- friendships and socialising	Online relationships Video- Chatting online	Online reputation Video- playing games	Copyright and ownership	Privacy and security Video- sharing pictures and videos	Managing online information
R/Y1						
Yr1/2						
Yr2						