Great Tey
Church of England
Primary School

Computing Curriculum and Skills Progression Map

Last reviewed March 2023

Skills Map - Computing (EYFS - Understanding The World - Technology)

Children will learn to:

	Reception (EYFS)	Aut	Spr	Su	Year One	Aut	Spr	Su	Year Two	Aut	Spr	Su
Technology Around Us	Recognise that a range of technology is used in places such as homes and school Select and use technology (CD player, digital camera) for particular purposes	✓ ✓	✓ ✓	✓ ✓	Explain how examples of technology help us Use a mouse to open a program and create pictures save work and open work from a file	✓ ✓ ✓			Explain how information technology helps us and how to use it safely Recognise that choices are made when using information technology and that technology can be used in a variety of ways	✓ ✓		
Creating Media	Use word processing systems such as Clicker to write simple sentences Draw pictures using Paint or other drawing app		✓ ✓	✓ ✓	Explain that pictures can be made in lots of different ways Use different tools in a painting app to create pictures - lines, draw, fill, shapes Use a keyboard and word processing app to write and delete text Make changes to text - undo, change font, change size	✓ ✓		✓ ✓	Use a digital device to take a photograph Use tools to make changes and improvements to photographs Identify photos that are real and ones that have been changed Use a computer to make sounds and create a musical sequence Create music for a purpose (e.g to represent an animal) and make improvements on the computer	✓ ✓ ✓		✓ ✓
Programming	Write simple instructions for a familiar activity Program a Beebot with limited adult support Use Scratch Jnr to move a sprite with adult support Predict where a Beebot might go when programmed	✓ ✓ ✓ ✓		✓ ✓ ✓ ✓	Program a Beebot by combining forwards, backwards, left, right commands to make a sequence Plan a simple program Identify the effect of changing a value in a program Use Sprite Jnr to give a sprite individual commands to move		✓ ✓	✓ ✓ ✓	Explain what happens when we change the order of a sequence os instructions Design an algorithm; test and debug my code Using Scratch Jnr, create a program using a given design and make improvements once I have tried it out.		✓ ✓	✓ ✓

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	Reception (EYFS)	Aut	Spr	Su	Year One	Aut	Spr	Su	Year Two	Aut	Spr	Su
Data and Information	Can children group things according to one criteria and say what the criteria is?	✓	✓	✓	Label, count and compare groups of objects, saying why they have been grouped in a particular way. Decide how to group objects to answer a question.		✓ ✓		Use simple computer software to create tally charts and pictograms based on classroom research. Ask and answer questions about their charts.			
E-safety	Talk about when they might feel unsafe or unhappy; Name the people who will help them; Know that you should tell a trusted adult if you ever see anything on a computer or screen that makes you upset				**Year 1/2 Year A** Start thinking about how to stay safe online, including safety around sharing images and personal information; Gain familiarity with online safety pages such as Think U Know, Smartie the Penguin, Hector's World Identify people they can trust to help if they see something online that makes them feel scared or uncomfortable.				**Year 1/2 Year B** Know the importance of keeping personal information private, when online and only talking to people they know in real life; Reflect on what they have learned from using online safety tools such as Think U Know, Smartie the Penguin, Hector's World Know that they can tell an adult they trust if a thing happens that makes them worried.			
Greater Depth	Can children find out about and use a range of everyday technology?				Can they plan and test their instructions?				Can they appreciate that some algorithms are more efficient than others?			
	With some independence, can children program a Beebot?				Can they use digital technology to organise and edit content (e.g. data in a graph, editing images)				Can they consider when digital technology leads to improvements or has the potential to make things worse?			
Vocab	Computer Technology Laptop Pattern Tablet Order Beebot Program Instructions				Keyboard Command Mouse Forward Edit Delete Text Backward Click and Drag Direction Save Sequence Properties Combine Compare Program				Information Technology Feature System Network Digital Image Edit Light source Attribute Sequence Command Program Design Block Sprite			

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Children will learn:

	Year Three	Aut	Spr	Su	Year Four	Aut	Spr	Su
Technology Around Us	Explain how digital devices function and identify input and output devices	✓			Describe how networks physically connect to other networks	✓		
	Explain how a computer network can be used to share information	✓			Outline how websites can be shared via the World Wide Web (WWW) and how content can be added and accessed on the World Wide Web (WWW)	✓		
	•identify how devices in a network are connected together and explain the role of a switch, server, and wireless access point in a network	✓			Explain why some information they find online may not be honest, accurate, or legal	✓		
Creating Media	Explain that animation is a sequence of drawings or photographs	✓			Identify that sound can be recorded and explain that audio recordings can be edited	✓		
	Create an animation using simple digital technology - stop motion animation. Plan, create and review an animation	✓			Recognise the different parts of creating a podcast project and apply audio editing skills independently	✓		
	Use a desktop publishing application such as Publisher to type, edit and change text, including changing the font, font size and page layout			✓	Combine audio to enhance my podcast project	✓		
					Explain that the composition of digital images can be changed through editing, cloning and combing			✓
					Evaluate how changes can improve an image			✓
Programming	Using Scratch, recognize that sprites respond to commands		✓		Create a program in a text-based language		✓	
	Create a sequence of connected commands		✓		Explain what 'repeat' means and modify a count-controlled loop to produce a given outcome		✓	
	Add sound to my program and change it's appear-ance.		✓		Create a program that uses count-controlled loops to produce a given outcome		✓	
	Create a program to move a sprite in four directions			✓	Develop a design that includes two or more loops which run at the same time			✓
	Identify and fix bugs in a program			✓	Design, create and refine a project that includes repetition			✓
	Design and create a maze-based challenge			✓				

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	Year Three	Aut	Spr	Su	Year Four	Aut	Spr	Su
Data and Information	Plan the structure of a branching database Independently create questions to use in a branching database that will enable objects to be uniquely identified Work with a partner to test my identification tool Suggest real-world uses for branching databases		✓ ✓ ✓		Use a digital device (sensor) to collect data automatically Explain that a data logger collects 'data points' from sensors over time Recognise how a computer can help us analyse data Use data from sensors to answer questions		✓ ✓ ✓ ✓	
E-safety	**Year 3/4 Year A** Evaluate the validity of statements relating to online safety; Recognise potential risks associated with browsing online; Give examples of strategies for safe browsing online. Understand that bullying can take place in the real world and online, and know that adults can help in both cases				**Year 3/4 Year B** Understand that we can be influenced both positively and negatively online Give examples of some of the consequences of behaving in an unacceptable, unhealthy or risky way online. Identify strategies for keeping personal information safe online; Describe safe behaviours when using communication technology.			
Greater Depth	Can they recognise the impact of keyword choice on search engine results (e.g. results ranked according to relevance)? Can they evaluate content (created / researched) against a given goal? Can they create, evaluate and refine a branching database to fulfill a given purpose?				Can they design and create content on a computer in response to a given goal, paying attention to the needs of a known audience? Can they can give reasons for errors in programs and explain how they have corrected these? Can they explain an algorithm using sequence, repetition and selection in their own words?			
Vocab	Input Input device Output Output device Loop Digital device Network switch Database Branching Stop frame Sequence Review / improve Frame Setting Onion skinning				Website Wi-Fi World Wide Web Network Content - reliable / unreliable Audio Podcast Editing Enhance Export Data logger Data Points Sensor Analyse Conclusion Text-based Code snippet Repeat / repetition Count controlled loop			

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Children will learn:

	Year Five	Aut	Spr	Su	Year Six	Aut	Spr	Su
Technology Around Us	Identify how to use a search engine; refine and compare search results	✓			Explain the importance of internet addresses	✓		
					Recognise how data is transferred across the internet	✓		
	Describe how search engines select results and rank them	✓			Evaluate different ways of working together online	✓		
					Recognise how we communicate using technology	✓		
	Recognise why the order of results is important, and to whom	✓			Evaluate different methods of online communication	✓		
	Explain how search results can be influenced	✓						
Creating Media	Use a digital device to record video and explain what makes a video effective	✓			Review an existing website and consider its structure	✓		
	Capture video using a range of techniques	✓			Plan the features of a web page and consider the ownership and use of images (copyright)	✓		
	Identify that video can be improved through reshoot-ing and editing	✓			Outline the need for a navigation path and recognise the implications of linking to content owned by other people	✓		
	Identify that drawing tools can be used to produce different outcomes and create a vector drawing by combing shapes			✓				
	Recognise that vector drawings consist of layers and group objects to make them easier to work with			✓	Recognise that you can work in three dimensions on a computer - modify and combine 3D objects			✓
	Apply what they have learned about vector drawings to a finished project			✓	Plan and create a 3D model for a given purpose			✓
Programming	Control a simple circuit connected to a computer		✓		Define a 'variable' as something that is changeable and explain why variables are used in programs		✓	
	Create a program that controls a physical computing project		✓		Choose how to improve a game by using variables		✓	
					Create algorithms and artwork to create a game project			
	Design a program that uses selection to create a quiz			✓	Design a project that uses inputs and outputs on a controllable device			✓
	Use and evaluate my program			✓				

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Children will learn:

	Year Five	Aut	Spr	Su	Year Six	Aut	Spr	Su
Data and Information	Compare paper and computer-based databases Explain that tools can be used to select specific data Outline how you can answer questions by grouping and then sorting data		✓ ✓ ✓		Create and build a data set in a spreadsheet Explain that formulas can be used to produce calculated data and apply formulas to data Choose suitable ways to present data		✓ ✓ ✓	

E-safety	**Year 5/6 Year A** Understand that online communication can be misinterpreted; Accept that responsible and respectful behaviour is necessary when interacting with others online as well as face-to-face. Reflect on what information they share offline and online; Recognise that people aren't always who they say they are online; Know how to protect personal information online.	**Year 5/6 Year B** Accept that responsible and respectful behaviour is necessary when interacting with others online and face-to-face; describe safe and respectful behaviours when using communication technology. Understand and describe the ease with which something posted online can spread. Identify strategies for keeping personal information safe online; Know that it is illegal to create and share sexual images of children under 18 years old; explore the risks of sharing photos and films of themselves with other people directly or online; know how to keep their information private online.
Greater Depth	Can they make a multimedia presentation that contains: sound; animation; video and buttons to navigate? Can they save an image document as a gif or j peg. file format using the command (e.g. "save as")? Can evaluate content according to its effectiveness and impact on a target audience?	Can they incorporate graphics where appropriate, using the most effective text wrapping formats? Can they compare the information provided on two tabbed websites looking for bias and perspective? Can they check and refine a series of instructions?
Vocab	System, Search engine, Input/Output, Processes, Refine, Video, Visual media, Reshooting, Storyboard, Export, Micro-controller, Output component, Multiple criteria, Field, Context, Vector, Alignment, Program Flow, Conditional statement	Collaboration, Data packets, Public / private, Variable, HTML, Copyright, Navigation Path, Hyperlink, Spreadsheet, Formula, Multiple cells, Three dimensions, Modification, Perspective, Variable, Physical Input, Emulator, Controllable device