Holy Trinity CofE Primary School
Computing Curriculum Overview

Rationale

At Holy Trinity we are aspirational for all children and aim for each child to live life to the full. Our vision is to equip all learners with the computing skills that they will use in a rapidly changing technological world. We aim to give all children enjoyable, relevant and meaningful experiences using a range of technology. We want learners to;

- Be confident and independent in their understanding and use of computing to solve problems across the curriculum and in everyday life.
- Be surrounded by ever-evolving, readily accessible technology
- Develop confidence and a growing awareness of how computers are used in the world around them; including the benefits that they can provide.
- Develop an awareness how to use technology safely, respectfully and responsibly in all aspects of the electronic world.
- Understand how to keep themselves safe and report concerns when using a range of technological devices.

Structure

Computing is taught every week at Holy Trinity. This amounts to approximately 36 computing lessons each year. We use the Kapow Computing Scheme of work as the basis for our curriculum, adapting lessons to suit the needs of the children.

Content

The scheme is broken down into 5 units per year group. They cover the three strands of the National Curriculum:

	Strand	Description
1	Computer Science	Computer science helps children of all ages to understand how computers and networks work. It gives all children the opportunity to learn basic computer programming, from simple floor robots in Years 1 and 2, right up to creating on-screen computer games and programmes by Year 6
2	Information Technology	Information technology is about how well children can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
3	Digital Literacy	Digital literacy ensures children are responsible, competent, confident and creative users of information and communication technology.

Key Areas

Lessons are categorised into the five key areas below, which we return to in each year group making it clear to see prior and future learning for your pupils and how what you are teaching fits into their wider learning journey.

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Skills showcase units
There are four units entitled Skills showcase. These units give children the chance to combine and apply skills and knowledge gained, from a range of the five key areas above, to produce a specific outcome. These units are highlighted in the curriculum coverage table below.

Saving and access of work
Children will use the 'NEST' drive to save and access their work in computing. This will be a key skill which children will need to revisit regularly until they are fluent. Unit outcomes and evidence of key skills will be printed and stored in the pupil's curriculum exercise book.

Assessment
As a subject underpinned by skill acquisition, we assess the children's ability to apply their computing skills by assessing the end of unit outcome, using PITA (point in time assessment) methodology. Knowledge organisers are used by the children throughout the unit to aid in the retrieval of key knowledge and skills associated with the unit of work they are learning. Children's knowledge is then assessed through a 'Knowledge Catcher' task and an end of unit quiz. Both of these are part of the profile of tasks included for computing in their individual curriculum exercise book.

Coverage Overview
The scheme covers the full requirements of the National Curriculum and to help show this, the school has assigned a code to each of the National Curriculum objectives to easily reference which ones are covered in each unit of work. There is no requirement to cover computing in the Early Years Framework. However, we believe the basic skills of navigating around a computer and simple program. Therefore, we have included these elements of Computing within our Reception Curriculum.

Key Stage One	
Code	**Objective**
NC1a	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
NC1b	Create and debug simple programs
NC1c	Use logical reasoning to predict the behaviour of simple programs
NC1d	Use technology purposefully to create, organise, store, manipulate and retrieve digital content
NC1e	Recognise common uses of information technology beyond school
NC1f	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.
Key Stage Two	
Code	**Objective**
NC2a	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
NC2b	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output
NC2c	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
NC2d	Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
NC2e	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content

NC2f	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
NC2g	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Coverage Detail

Reception / EYFS (Early Years Foundation Stage Statutory Framework: for group and school-based providers 2024)

The DfE Statutory Framework for the Early Years Foundation Stage says that by '*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.*' (page 11).
Technology should be integrated within their everyday provision.

Examples of how technology is used within EYFS

- Floppy Phonics digital programme allows children to listen to new sounds and move letters through touch to create words
- Free Painting canvas on Interactive Whiteboard - through this, children can change the colour of the pen and canvas as well as change the shape of the brush that they are using
- Tapestry is used to gather evidence of the children's work and experiences. The children know that this information is shared with their parents and ask for photos to be taken
- iPads are used for the children to take photographs
- Small tablets allow the children to access age appropriate games and activities
- BeeBots are used for simple forwards and backwards programming
- Children know how to play, pause and select videos when on the IWB
- Staff use everyday language when talking about technology and how it is used within the Reception classroom.

Additionally, children in Reception will have Computing sessions from Autumn 2. This session will take place as a whole class with the teacher modelling the focus of the lesson, e.g. how to log onto a computer. Laptops will then be available for the children to use in continuous provision to explore with support.

Autumn 2	**Spring 2**	**Spring 2**	**Summer 1**	**Summer 2**
Using a mouse to click, drag and move objects	Learn about follow instructions	Tinkering and exploring how to take photographs	Learn about directions and moving a BeeBot	Sorting and categorising different groups of objects

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Years 1 to 6						
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Y1	Improving Mouse Skills	Algorithms Unplugged	Rocket to the Moon (Skills Showcase)	Programming: BeeBot	Digital Imagery	Introduction to Data
Y2	What is a computer?	Algorithms and Debugging	Word Processing	Scratch Jr	Stop Motion	Space Station
Y3	Networks	Programming: Scratch	Emailing	Journey Inside a Computer	Video Trailers	Databases
Y4	Collaborative Learning	Further Coding: Scratch	Web Design	HTML (Skills Showcase)	Programming: Computational Thinking	Data Handling: Weather
Y5	Search Engines	Scratch Music	Data Handling: Mars Rover	Programming: Micro:bit	Creating Media: Powerpoints	Mars Rover (Skills Showcase)
Y6	Bletchley Park and the History of Computers	Exploring AI	Data Handling: Big Data 1	Intro to Python	Data Handling: Big Data 2	Invent a Product: Micro:bit (Skills Showcase)

Curriculum Coverage

Year 1								
			NC Reference					
Term	**Unit**	**Strand**	**NC1a**	**NC1b**	**NC1c**	**NC1d**	**NC1e**	**NC1f**
Autumn	Improving Mouse Skills	Information Technology				■	■	■
		Digital Literacy						
	Algorithms Unplugged	Computer Science	■	■				
Spring	Rocket to the Moon *Skills Showcase	Digital Literacy				■		
	Programming - BeeBot	Computer Science	■	■	■			
Summer	Digital Imagery	Information Technology			■	■	■	■
		Digital Literacy						
	Introduction to Data	Information Technology				■	■	
		Digital Literacy						

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Year 2								
			NC Reference					
Term	**Unit**	**Strand**	**NC1a**	**NC1b**	**NC1c**	**NC1d**	**NC1e**	**NC1f**
Autumn	What is a computer?	Computer Science	■				■	
		Information Technology						
	Algorithms and debugging	Computer Science	■	■	■			
Spring	Word processing	Digital Literacy				■		■
	Scratch Jr	Computer Science	■	■	■	■		
		Digital Literacy						
Summer	Stop Motion	Digital Literacy				■	■	
		Information Technology						
	Space Station	Computer Science	■			■		
		Digital Literacy						

Year 3									
			NC Reference						
Term	**Unit**	**Strand**	**NC2a**	**NC2b**	**NC2c**	**NC2d**	**NC2e**	**NC2f**	**NC2g**
Autumn	Networks	Information Technology				■	■	■	
		Digital Literacy							
	Programming Scratch	Computer Science	■	■	■		■	■	
Spring	Emailing	Information Technology				■		■	■
		Digital Literacy							
	Journey inside a computer	Computer Science	■		■	■			
		Information Technology							
		Digital Literacy							
Summer	Video trailers	Information Technology					■	■	
		Digital Literacy							
	Comparison Cards - Databases	Computer Science						■	
		Information Technology							

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Year 4									
			NC Reference						
Term	**Unit**	**Strand**	**NC2a**	**NC2b**	**NC2c**	**NC2d**	**NC2e**	**NC2f**	**NC2g**
Autumn	Collaborative Learning	Information Technology							
		Digital Literacy							
	Further coding with Scratch	Computer Science							
Spring	Web Design	Information Technology							
		Digital Literacy							
	HTML *Skills Showcase	Computer Science							
Summer	Computational Thinking	Computer Science							
		Information Technology							
	Investigating Weather	Computer Science							
		Digital Literacy							

Year 5									
			NC Reference						
Term	**Unit**	**Strand**	**NC2a**	**NC2b**	**NC2c**	**NC2d**	**NC2e**	**NC2f**	**NC2g**
Autumn	Search Engines	Digital Literacy							
		Information Technology							
	Programming Music	Computer Science							
		Information Technology							
Spring	Mars Rover	Digital Literacy							
		Information Technology							
	Micro:bit	Computer Science							
		Information Technology							
Summer	Powerpoint Quizzes	Computer Science							
	Mars Rover 2	Computer Science							
		Information Technology							

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Year 6									
			NC Reference						
Term	**Unit**	**Strand**	**NC2a**	**NC2b**	**NC2c**	**NC2d**	**NC2e**	**NC2f**	**NC2g**
Autumn	Bletchley Park and the History of Computers	Computer Science	■	■	■		■	■	■
		Information Technology							
		Digital Literacy							
	Exploring AI	Digital Literacy				■		■	
		Information Technology							
Spring	Big Data 1	Information Technology				■		■	■
		Digital Literacy							
	Intro to Python	Computer Science	■	■	■			■	
		Information Technology							
Summer	Big Data 2	Information Technology				■		■	
		Digital Literacy							
	Inventing a product (Micro:bit)	Digital Literacy	■	■	■	■	■	■	■
		Computer Science							
		Information Technology							