Sandy Lane Primary School

Computing Curriculum



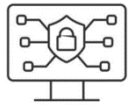
Computer Science



Information Technology



Digital Literacy



Online Safety

Intent
At Sandy Lane Primary School, our Computing curriculum aims to equip all pupils with the essential skills, knowledge, and understanding needed to thrive in an increasingly digital world. We intend to develop creativity, problem-solving, and critical thinking through engaging and progressive lessons that align with the National Curriculum. Our goal is to develop confident, responsible, and competent digital citizens who can use technology safely and effectively across all areas of their learning and future lives.
Implementation
The Computing curriculum is carefully planned and sequenced to build skills progressively from KS1 through to Year 6. We deliver a broad range of topics including coding, computer science, digital literacy, information technology, and online safety. Lessons are delivered using a mixture of direct teaching, practical activities, and cross-curricular projects to ensure knowledge is applied in meaningful contexts. We use a variety of hardware and software resources to support diverse learning styles and needs. Continuous assessment and teacher feedback ensure that learning objectives are met and adapted where necessary to meet individual pupil needs.
Impact
Pupils at Sandy Lane demonstrate increasing confidence and competence in using computing skills, showing enthusiasm and creativity in their work. They develop problem-solving abilities and logical thinking, which supports learning across the curriculum. Our pupils understand the importance of online safety and show responsible behaviour when using technology. By the time they leave Sandy Lane Primary School, children are well-prepared for secondary education and beyond, equipped with the foundational computing skills necessary for lifelong learning and success in the digital age.

Progression

Progression Overview
The Computing curriculum at Sandy Lane Primary School is designed to develop pupils' knowledge and skills progressively throughout their primary education, in line with the National Curriculum. The skills are carefully structured to build on prior learning year by year, ensuring a deepening understanding and increasing confidence in using technology.
Detailed Progression Overview
Key Stage 1: • Pupils learn to understand what algorithms are and follow simple instructions. • They use basic programming concepts through simple coding activities (e.g., sequencing commands). • Pupils gain confidence in using common software such as word processors, painting programs, and digital cameras. • They develop early internet safety awareness, including understanding how to keep themselves safe online. • Children begin to collect, organise, and present data using simple tools. **Lower Key Stage 2:** • Pupils build on their programming knowledge with more complex sequences and debugging simple code. • They learn to use a wider range of software applications for word processing, spreadsheets, and presentations.

- Pupils begin to explore the use of technology for research, including effective use of search engines.
- There is a stronger focus on online safety and responsible use of digital technology.
- Children develop understanding of how digital devices work and are used in everyday life.

Upper Key Stage:

- Pupils refine their programming skills using block-based and text-based coding languages, creating increasingly complex algorithms.
- They learn to evaluate and improve their digital work, focusing on accuracy and creativity.
- Pupils apply computing skills across other subjects to solve problems and present information effectively.
- There is an emphasis on advanced online safety topics, including privacy, digital footprint, and cyberbullying.
- Pupils explore computer networks, the internet, and data security concepts at an age-appropriate level.

This clear progression ensures that by the end of primary school, pupils are confident, competent, and safe users of technology, prepared for the challenges of secondary education and the digital world beyond.

Strand	KS1	Vocabulary	LKS2	Vocabulary	UKS2	Vocabulary
Computer Science	- Understand that devices follow instructions (algorithms).	Algorithm, program, instructions, debug	- Understand that programs use sequences, loops, and	Sequence, loop, event, variable	- Design, write, and debug programs that use variables, conditions, and	Function, condition, debugging

	- Create and debug simple programs using basic commands (e.g., Bee-Bots, Scratch Jr). - Recognise patterns in instructions and predict outcomes.		events. - Write and debug simple programs using visual programming (e.g., Scratch, Purple Mash). - Use logical reasoning to predict and explain how algorithms work.		functions. - Use more advanced programming languages (e.g., Purple Mash). - Understand how computer networks, including the internet, work.	
Information Technology	- Use a range of digital devices to create, store, and retrieve content (e.g., text, images, sound). - Understand the purpose of different digital tools (e.g., word	device, text, image, save, retrieve	- Select and use different software to create purposeful content (e.g., presentations, spreadsheets, animations). - Understand how search engines work	hyperlink, network, collaborate, presentation, spreadsheets, animations, search engine	- Evaluate and use digital tools effectively for different purposes (e.g., data analysis, multimedia projects). - Use search engines efficiently and assess online sources for	Data analysis, multi-media, encryption, firewall, bias, credibility

	processing, painting programs).		and how to find reliable information online.		reliability and bias.	
Digital Literacy	- Understand that digital devices help us communicate. - Recognise common technology (e.g., tablets, computers, cameras). - Begin to understand that digital content can be shared.	Communicate, message, email, tablet, computer, PC	- Understand that digital tools can be used to collaborate and share information. - Know that data can be collected, stored, and used in different ways. - Recognise the impact of digital content on daily life.	URL, hyperlink, network, collaborate, digital footprint	- Understand how technology influences communication and society. - Evaluate the impact of technology on privacy, security, and wellbeing. - Understand ethical considerations when creating and sharing digital content.	digital citizenship, two-factor authentication, digital content
Online Safety	- Recognise what personal information is and why it should be kept private.	internet, password, login, safe, private, information, online, share,	- Understand how to create and use secure passwords.	cyberbullying, privacy settings	Understand online privacy settings, digital footprints, and data protection.	encryption, firewall, phishing, hacking, bias, credibility, digital

	- Understand that not all online information is true. - Know to tell an adult if something online makes them uncomfortable.	search	- Recognise online risks (e.g., cyberbullying, fake news, scams). - Know how to report online concerns.		- Understand the impact of cyber threats (e.g., phishing, hacking) and how to stay safe online.	citizenship, two-factor authentication

KS1 Assessment Grid

Strand	WTS	%	EXS	%	GDS	%
Computer Science	Can follow simple instructions to complete a task.		Can create and debug simple programs (e.g., Bee-Bots, Scratch Jr).		Can predict the outcome of simple algorithms and explain errors.	

Information Technology	Can use digital devices to create simple content.		Can save, retrieve, and edit digital work.		Can use different apps to combine text, images, and sound.	
Digital Literacy	Can name common digital devices.		Understands that technology helps communication		Can explain how digital devices are used in daily life.	
Online Safety	Can identify personal informati on and knows not to share it.		Knows how to stay safe online and report concerns.		Can explain why some online information is unreliable.	

LKS2 Assessment Grid

Strand	WTS	%	EXS	%	GDS	%

Computer Science	Can use sequences and loops with support.		Can write and debug programs using visual programming (e.g., Scratch).		Can create a program that uses variables and multiple sequences.	
Information Technology	Can choose appropriate software for a task with guidance.		Can use software to present information (e.g., PowerPoint, spreadsheets).		Can independently use a range of digital tools for different purposes.	
Digital Literacy	Can use online tools to collaborate with guidance.		Can explain how digital content is created and shared.		Can discuss the benefits and risks of digital communication.	
Online Safety	Recognises online risks (e.g., cyberbullying, scams) but may need support.		Understands and applies online safety measures (e.g., passwords, reporting concerns).		Can confidently explain online risks and how to avoid them.	

UKS2 Assessment Grid

Strand	WTS		EXS		GDS	

Computer Science	Can use conditions and variables with support.		Can design, write, and debug programs with conditions and loops.		Can independently create efficient code using advanced features (e.g., functions).	
Information Technology	Can use search engines but may struggle to assess reliability.		Can evaluate digital content for credibility and bias.		Can independently use a range of tools for complex projects (e.g., data analysis, coding simulations).	
Digital Literacy	Understands how technology influences daily life.		Can evaluate how technology impacts society.		Can discuss ethical, considerations of digital technology (e.g., data privacy, AI).	

Online Safety	Understands online safety but may not always apply it.		Can explain digital footprints, cyber threats, and security measures.		Can independently manage online privacy and security and educate others about safe practices.	

Sandy Lane Primary School Computing Overview

Year A	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
KS1	Digital literacy – online safety and exploring purple mash - effective searching	Computer science- Lego builders Digital literacy – technolo	Computer science - grouping and sorting IT- creating pictures	IT – creating pictures Computer science – coding	Computer science – coding	Computer science – coding

		gy outside school				
LKS 2	Purple Mash Computer Science- Coding	Purple Mash Digital Literacy Online safety- IT Spreadsheets	Purple Mash IT Spreadsheets Digital Literacy- emails	Purple Mash Digital Literacy- emails IT- Branching Databases	Purple Mash IT Simulations IT Graphing	Purple Mash Computer Science Micro- bits
UKS 2						
YEAR B						
KS1	Digital literacy – online safety and exploring purple mash Computer science – maze	IT – questioning	Digital literacy – 1.1 online safety IT – animated story books	IT – animated story books IT – making music	IT – spreadsheets	IT – pictograms IT – presenting ideas

	explorers					
LKS 2	**Purple Mash Computer Science- Coding**	**Digital Literacy- Online Safety IT- Writing for different audiences**	**Purple Mash IT- Writing for different audiences Computer Science- Logo**	**Purple Mash IT animation IT effective search**	**Purple Mash Computer Science- Hardware investigators IT- Presenting**	**Purple Mash IT- Presenting IT- Touch typing**
UKS 2	**Computer Science *Coding***	**Digital Literacy *Online Safety and Blogging***	**Computer Science *Using External Devices***	**Computer Science *Networks***	**IT *Quizzing***	**Computer Science *Micro:bit***