



Curriculum Computing - Whole School





Curriculum Computing Rationale

At Springfields First School, we believe that every child should have the opportunity to become a confident, capable and responsible user of technology. Computing is an essential part of preparing pupils for life in an increasingly digital world, enabling them to think logically, solve problems creatively and understand the role technology plays in everyday life. Our curriculum develops pupils' computational thinking, digital literacy and computer science knowledge through engaging, practical experiences. We foster curiosity, resilience and creativity while ensuring pupils understand how to use technology safely, respectfully and responsibly. The school follows the **Oak National Academy Computing Scheme of Work**, which provides a carefully sequenced and knowledge-rich curriculum from Year 1 to Year 4. The scheme is adapted where appropriate to meet the needs of our pupils while ensuring full coverage of the National Curriculum for Computing.

Intent:	At Springfields First School, our computing curriculum is designed to ensure that all pupils develop secure knowledge of computer science, information technology and digital literacy. We build progressively on prior learning through a carefully sequenced curriculum so that pupils become confident computational thinkers who can analyse problems and create solutions. Pupils use technology creatively to communicate ideas and create digital content whilst developing resilience when debugging and solving problems. Pupils are taught to understand the opportunities and risks presented by technology so that they become safe, respectful and responsible digital citizens. Pupils also explore how technology influences modern society and future careers. The curriculum has been carefully planned to reduce cognitive overload, revisit key concepts regularly and ensure knowledge is retained over time.
Implementation:	Computing is not a discrete National Curriculum subject within the EYFS. However, we believe that children should be able to develop a curiosity for and a basic understanding of digital technology in order to prepare them for the learning that takes place in Year 1 and beyond. Therefore, opportunities are implemented through carefully planned continuous provision activities under the overarching concept of 'Understanding the World'. From Year 1 to Year 4, the curriculum is implemented through the Oak National Academy Computing Scheme of Work. Due to the nature of our school, this scheme of work is sometimes adapted to accommodate mixed-age classes. Teachers deliver lessons in the planned sequence; adapt learning to meet the needs of individual classes; provide practical opportunities to apply knowledge; explicitly teach new vocabulary; revisit previous learning through retrieval activities; use questioning to deepen understanding; encourage collaborative learning and discussion and provide opportunities for independent application of skills. Lessons are structured to include retrieval of previous knowledge; introduction of new concepts; teacher modelling; guided practice independent application; reflection and evaluation. Computing is taught as a discrete subject while meaningful cross-curricular links are made where appropriate.
Impact:	The impact of our curriculum is demonstrated through pupils who enjoy computing and show curiosity about technology. They retain and apply knowledge over time, confidently use computing vocabulary. Pupils solve problems independently; debug programs systematically; produce high-quality digital outcomes and make informed decisions when using technology. Besides this, our pupils understand how to stay safe online and are well prepared for the next stage of education. Impact is evaluated through, lesson observations; pupil discussions; work scrutiny; assessment information; monitoring of curriculum coverage and subject leader evaluations.



Curriculum Map Computing

Whole School Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Pre-School	Super Me!		Winter Wonderland & Spring Sunshine		Splish! Splash! Splosh!	
Reception						
KS1 Cycle A	Information Technology in the World Beyond School (Y2)		Digital Painting (Y1)		Digital Writing (Y1)	
KS1 Cycle B	Creating Animations in Programs (Y1)		Using IT to Organise and Present Data (Y2)		Building Sequences in Programs (Y2)	
LKS2 Cycle A	Computer Networks (Y3)	Photo Editing (Y4)	Audio Production (Y4)	Organising Data Using Databases (Y3)	Programming Sequence Using Sound (Y3)	Events and Actions in Programming (Y3)
LKS2 Cycle B	The Internet (Y4)	Desktop Publishing (Y3)	Stop Frame Animation (Y3)	Data Logging (Y4)	Repetition in Programs (Y4)	Using Repetition in Programming to Create a Game (Y4)



Curriculum Map

EYFS

There is no ELG for computing but early computing skills and knowledge are developed under the heading of 'Understanding the World'.

The content below is delivered through Continuous Provision and Online Safety lessons.

Playing & Exploring - Engagement	Active Learning - Motivation	Creating & Thinking Critically - Thinking
- Finding out & exploring - Playing with what they know - Being willing to 'have a go'	- Being involved & concentrating - Keep on trying - Enjoying achieving what they set out to do	- Having their own ideas (creative thinking) - Making links (building theories) - Working with ideas (critical thinking)

Focus	Algorithms	Creating Programs	Using Technology	Use of IT Beyond School	Safe Use
Pre-school	Show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images	Show an interest in technological toys with knobs or pulleys, real objects such as cameras and touchscreen devices such as mobile phones and tablets	Know that information can be retrieved from digital devices and the internet	Know how to operate simple equipment e.g. turn on CD player, uses remote control, can navigate touch-capable technology with support	- Know how to handle equipment safely - Begin to know that they shouldn't use devices without supervision
Reception	Develop digital literacy skills by being able to access, understand and interact with a range of technologies	Complete a simple program on electronic devices	Create content such as a video recording, stories and/or draw a picture on screen	Begin to recognise and describe about how new information technology could enhance their lives	- Begin to give reasons why we need to stay safe online - Use the internet with adult supervision to find and retrieve information of interest to them



Curriculum Map

KS1 Cycle A

Autumn – Information Technology in the World Beyond School	Spring – Digital Painting	Summer – Digital Writing
• I can recognise the uses and features of information technology • I can identify the information technology in school • I can find and describe examples of how information technology is used in the world beyond school • I can explain how information technology helps us • I can explain how to use information technology safely • I can recognise that choices are made when using information technology	• I can use digital tools to draw a picture • I can use the line tool and shape tool in my digital artwork • I can create shapes and choose the colours to make a digital painting • I can choose suitable tools and colours to make an image in the style of Kandinsky • I can change the style of my digital tools to work in different ways in a painting program • I can compare painting on a computer and painting on paper and explain which I prefer to use	• I can use a computer to write • I can add and remove text using a keyboard • I can add capital letters and change my text • I can change the style of the text in a word processor • I can make formatting changes and undo mistakes • I can compare digital writing to using a pencil



Curriculum Map

KS1 Cycle B

Autumn - Creating Animations in Programs	Spring - Using IT to Organise and Present Data	Summer - Building Sequences in Programs
• I can choose a command for a given purpose • I can connect commands together to make a program • I can change the value in a command block and explain its effect • I can explain that each sprite has its own instructions • I can design an algorithm and follow it to create a program • I can check a program for errors to make sure it runs as I planned it	• I can compare data using tally charts • I can enter data onto a computer and answer questions using a pictogram • I can use a computer to present data as a pictogram • I can use attributes to compare objects • I can compare data about attributes • I can present information on a computer	• I can identify the start of a sequence • I can predict the outcome of a sequence • I can create a program that uses event blocks • I can modify a design to create my own quiz • I can create a quiz program using my own design • I can evaluate and improve a program



Curriculum Map

LKS2 Cycle A

Autumn 1 Computer Networks	Autumn 2 Photo Editing	Spring 1 Audio Production	Spring 2 Organising Data Using Databases	Summer 1 Programming Sequence Using Sound	Summer 2 Events and Actions in Programming
- I can describe how digital devices work - I can design a digital device - I can explain how digital devices can be used for different activities - I can explain how a computer network can be used to share information - I can explain how digital devices can be connected - I can identify the physical components of a network	- I can use a range of tools to change a digital image and its composition - I can explain the impact of changing the colours in a digital image - I can explain how cloning can be used to change digital images - I can describe how images can be combined - I can create a new image using parts of other images - I can evaluate how changes can improve an image	- I can name devices used to listen to and play audio and create my own audio recording using key features - I can edit and combine tracks to make a new audio - I can recognize the features of a podcast and plan my own - I can record the voice parts of a podcast based on a plan - I can export a completed podcast for listening on other digital devices - I can evaluate how effective a podcast is	- I can create questions that have a yes/no answer - I can identify the attributes needed to collect data about an object - I can create a branching database - I can explain why it is helpful for a database to be well structured - I can plan the structure of a branching database - I can independently create an identification tool	- I can use sprites in Scratch and customize them - I can identify that commands have an outcome - I can explain that programs run sequences which can be triggered by an event - I can recognize that the order of commands in a program can affect the output - I can design a program that will combine different types of code block to control multiple sprites - I can implement an algorithm as code to create a project from a design	- I can explain how a sprite moves in a programming project - I can create a program to move a sprite in four directions - I can adapt a program to a new context - I can develop my program by adding features - I can fix bugs that I find in a program - I can create and evaluate a maze-based game



Curriculum Map

LKS2 Cycle B

Autumn 1 The Internet	Autumn 2 Desktop Publishing	Spring 1 Stop Frame Animation	Spring 2 Data Logging	Summer 1 Repetition in Programs	Summer 2 Using Repetition in Programming to Create a Game
- I can explain how networks are connected together and why it is important they are protected - I can describe how information is sent between networked devices - I can outline how websites or the World Wide Web are shared via the internet - I can explain how content is made available on the World Wide Web - I can recognize that the World Wide Web is made up of content created and owned by many people - I can evaluate the reliability of content on the web	- I can recognize the advantages and disadvantages of how text and images are used to communicate - I can change the font of the text to make it suitable for its use in desktop publishing - I can plan the layout of a document by choosing a suitable template - I can copy content into a template - I can plan, create and use a template for a specific purpose - I can edit and improve a document based on feedback I receive	- I can explain that animation is a sequence of pictures - I can relate animated movement to a sequence of pictures - I can plan an animation using a storyboard - I can identify the need to work consistently and carefully - I can review and improve my animation - I can evaluate the effect of adding other media to an animation	- I can explain that data gathered over time can be used to answer questions - I can use a digital device to collect data - I can explain that a data logger collects data points from sensors over time - I can recognize how a computer can help us to analyse data - I can identify the data needed to answer questions - I can use data from sensors to answer questions	- I can type programming commands accurately - I can create a program in a text-based language - I can describe repetition - I can modify a count-controlled loop to produce a given outcome - I can decompose a task into small steps - I can create a program using count-controlled loops to produce a given outcome	- I can use count controlled loops - I can tell the difference between count-controlled loops and infinite loops - I can develop a design that includes two or more loops - I can modify an infinite loop in a given program - I can design a project that includes repetition - I can create a project that includes repetition