



Computing Key Stage 1

Purpose of study

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

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.

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study. *Items in italics are suggestions only*

Key stage 1

Pupils should be taught to:	Year 1			Year 2		
	Aut	Spr	Sum	Aut	Spr	Sum
understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions <i>by</i> :						
<ul style="list-style-type: none"> • <i>learning about algorithms</i> • <i>controlling turtles and other programmable devices</i> 						
create and debug simple programs <i>by</i> :						
<ul style="list-style-type: none"> • <i>giving and following instructions</i> • <i>creating programs for specific tasks</i> 						
use logical reasoning to predict the behaviour of simple programs <i>by</i> :						
<ul style="list-style-type: none"> • <i>predicting results of programs</i> • <i>using the repeat command</i> 						
use technology purposefully to create, organise, store, manipulate and retrieve digital content <i>by</i> :						
<ul style="list-style-type: none"> • <i>creating a book</i> • <i>creating and understanding pictograms</i> • <i>creating presentations</i> • <i>recording sound and creating music</i> • <i>making a film</i> 						
recognise common uses of information technology beyond school <i>by</i> :						
<ul style="list-style-type: none"> • <i>understanding the digital devices around them</i> • <i>learning how to use the internet efficiently</i> 						
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 <i>by</i> :						
<ul style="list-style-type: none"> • <i>learning how to stay safe online</i> • <i>using email to communicate</i> 						