



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

Computing is no longer included within EYFS framework. However, various media are used to assist development within the EYFS areas and online safety will also be taught.

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



Key stage 1

Pupils should be taught to:

- understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions (LO3)
- create and debug simple programs (LO4)
- use logical reasoning to predict the behaviour of simple programs (LO5)
- use technology purposefully to create, organise, store, manipulate and retrieve digital content (LO2)
- recognise common uses of information technology beyond school (LO6)
- 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 (LO1)

Progression of skills	EYFS (<i>opportunities to engage with media and online safety- NB no ELGs attached</i>)	Year 1	Year 2	End of KS1 expectations
<u>Online Safety</u>	<i>- To use simple equipment in the classroom - To talk about how they, use the internet at home and what it is.</i>	<i>- Learn the SMART rules for internet safety - Open a web browser. Choose the correct safe search filter when using a search engine</i>	<i>- Know what 'digital footprint' means and that people can use the information they put online; - Use a website safely to search for information and</i>	<i>To 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</i>



	<ul style="list-style-type: none"> - To know who they can go to if they see something online that worries them - To know that not all websites are suitable for children. - Recognise which personal information they should keep safe from strangers. 	<ul style="list-style-type: none"> - Recognise which personal information they should keep safe from strangers and who to tell if asked. 	<ul style="list-style-type: none"> identify keywords that will give appropriate search results; - Recall the SMART rules for internet safety. Begin to identify possible dangers online; - Identify websites suitable for their age and know when to ask an adult for advice - Identify unkind online behaviour and know what to do if this happens. 	<p>the internet or other online technologies (LO1)</p>
<p><u>Using and Applying</u></p>	<ul style="list-style-type: none"> -To use the technology around them such as the listening area and hand held cameras. -To have experience of using the IWB including busy things/phonics games. 	<ul style="list-style-type: none"> -Switch on and shut down a computer independently -Sign into a computer independently -Click and drag with a mouse or trackpad - Launch an application by double clicking it. -Manipulate an application window by moving and resizing it. -Type with two hands -Type correct letters -Use shift, space and enter correctly 	<ul style="list-style-type: none"> -Retrieve/open a file from a saved location - Add new slides to a presentation with a main idea on each slide; - Insert and reorder slides; - Add text and images to a presentation 	<p>To use technology purposefully to create, organise, store, manipulate and retrieve digital content (LO2)</p> <p>To recognise common uses of information technology beyond school. (LO6)</p>



		<ul style="list-style-type: none">- Use undo and redo-Format text in different ways (bold, italic and underline)- Edit text using backspace, delete and the arrow keys- Format the font- Select single words-Save and open files		
<u>Digital Art</u> <u>(linked to art)</u>	<i>-Paint online with different colours and brushes</i> <i>-Create shapes online</i>	<ul style="list-style-type: none">- Paint with different colours and brushes online- Create shapes online- Fill an area with a colour- Manipulate shapes using click and drag functions on mousepad- Make changes using undo or redo commands- Add text- Save work using an appropriate naming convention	<ul style="list-style-type: none">- Access an appropriate program for achieving a specific art task;-Switch between program tools to produce different techniques;-Alter the formatting of a tool to adjust the colour or size;-Recreate a piece of art using a computer program- Control the mouse/trackpad to produce different effects (dots/lines)-Manipulate shapes and objects to recreate an artistic style.	To use technology purposefully to create, organise, store, manipulate and retrieve digital content (LO2)



<p><u>Algorithms and Programming</u></p>		<ul style="list-style-type: none">- Say what an algorithm is and why it is important to be precise when writing an algorithm.- Plan and check an algorithm by creating step-by step instructions using pictures or role play; Check work for mistakes and resolve them(debug)-Use a program to move an online object eg Busy Things or a Bee-Bot using a sequence of 2 or 3 steps.	<ul style="list-style-type: none">- Create algorithms using an online program.- Snap blocks together to combine commands.- Turn a character/object right 90 degrees or left to understand perspective.-Draw shapes or follow a route in a program using a sequence of more than 5 steps.	<p>To understand what algorithms are; and how they are implemented as programs on digital devices and that programs execute by following precise and unambiguous instructions (LO3 end of Yr 1)</p> <p>To create and debug simple programs. (LO4)</p> <p>To use logical reasoning to predict the behaviour of simple programs. (LO5)</p>
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