

Computing

Notes for teachers:

Computing has been split into **computer science** and **digital literacy**.

The curriculum for computing is a set of standards that **need to be achieved by the end of the key stage**.

The new focus on computing is largely based around the old control elements e.g. In KS1 “understand what algorithms are, how they are implemented as programs on digital devices, and that programmes execute by following precise and unambiguous instructions”

Digitally Literate: Able to use, and express themselves and develop their ideas through, information and communication technology. The need to use ICT across the curriculum is not explicitly stated but is, of course essential for any 21st Century Curriculum.

Phil Bagge (ICT course) suggested that the same skills need to be taught every year with the basics being revised all the way through KS1 and 2.

Herts for learning Computing scheme units

Possible sequence of learning themes – these could be swapped around between Y1/2, Y3/4 and Y5/6 to complement other areas of the curriculum as long as teaching is differentiated.

<h2 style="margin: 0;">Year 1</h2> <p style="margin: 0;"><i>e-safety to be embedded throughout year: to use technology safely, appropriately and responsibly</i></p>		
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> THROUGHOUT THE YEAR </div>	<p><u>Computer Science</u> Pupils should be taught to:</p> <ul style="list-style-type: none"> • Understand what algorithms are (L1) • Understand that algorithms are implemented as programs on digital devices (L2) • Understand that programs execute by following precise and unambiguous instructions (L2) • Create simple programs (L1) • Debug simple programs (L2) • Use logical reasoning to predict the behaviour of simple programs (L2) 	<p>Herts for Learning Computing Scheme Units (could be interchanged with units from Y2)</p> <p style="color: red;">Let's create (precedes Getting Creative in Y2)</p> <p style="color: red;">Visual information</p> <p style="color: red;">Discovering programming</p>
	<p><u>Digital Literacy</u> Pupils should be taught to:</p> <ul style="list-style-type: none"> • Use technology purposefully to create digital content (L1) • Use technology purposefully to store digital content (L1) • Use technology purposefully to retrieve digital content (L1) • Recognise common uses of information technology 	

	beyond school (L1)	
	<ul style="list-style-type: none"> • Use technology safely, keeping personal information private (L1) 	
<h2 style="margin: 0;">Year 2</h2> <p style="margin: 0;"><i>e-safety to be embedded throughout year: to use technology safely, appropriately and responsibly</i></p>		
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> THROUGHOUT THE YEAR </div>	<p><u>Computer Science</u> By end of Key Stage pupils should be taught to:</p> <ul style="list-style-type: none"> • Understand what algorithms are (L1) • Understand that algorithms are implemented as programs on digital devices (L2) • Understand that programs execute by following precise and unambiguous instructions (L2) • Create simple programs (L1) • Debug simple programs (L2) • Use logical reasoning to predict the behaviour of simple programs (L2) 	<p>Herts for Learning Computing Scheme Units (could be interchanged with units from Y1)</p> <p style="color: red;">Starting Research</p> <p style="color: red;">Getting Creative</p> <p style="color: red;">Talking and Sharing</p>
	<p><u>Digital Literacy</u> By end of Key Stage pupils should be taught to:</p> <ul style="list-style-type: none"> • Use technology purposefully to create digital content (L1) • Use technology purposefully to store digital content (L1) • Use technology purposefully to retrieve digital content (L1) • Use technology purposefully to manipulate digital content (L2) • Use technology purposefully to organize digital content (L2) • Recognise common uses of information technology beyond school (L1) • Use technology safely and respectfully, keeping personal information private (L1-2) • Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies (L2) 	

Computing - KS2

<h2 style="margin: 0;">Year 3</h2> <p style="margin: 0;"><i>e-safety to be embedded throughout year: to use technology safely, appropriately and responsibly</i></p>		
<div style="border: 1px solid black; padding: 5px; width: 80px; margin: auto;"> <p style="margin: 0; text-align: center;">THROUGHOUT THE YEAR</p> </div>	<p><u>Computer Science</u> Pupils should be taught to:</p> <ul style="list-style-type: none"> Design and create programs that accomplish specific goals, including controlling or simulating physical systems (L3-4) Use sequence and repetition in programs (L3-4) Work with various forms of input and output (L3) Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs (L4) 	<p>Herts for Learning Computing Scheme Units (could be interchanged with units from Y4)</p> <p style="color: red;">Bringing images to life</p> <p style="color: red;">Developing Communication</p> <p style="color: red;">Keeping Informed</p>
	<p><u>Digital Literacy</u> Pupils should be taught to:</p> <ul style="list-style-type: none"> Use search technologies effectively (L3) Use a variety of software to accomplish given goals, including collecting information, presenting information and designing and creating content. (L3) Use technology safely, respectfully and responsibly (L3) Identify a range of ways to report concerns about contact (L3-4) Recognise acceptable / unacceptable behaviour (L4) 	
<h2 style="margin: 0;">Year 4</h2> <p style="margin: 0;"><i>e-safety to be embedded throughout year: to use technology safely, appropriately and responsibly</i></p>		
	<p><u>Computer Science</u> Pupils should be taught to:</p> <ul style="list-style-type: none"> Design, create and debug programs that accomplish specific goals, including controlling or simulating physical systems (L4) Use sequence and repetition in programs (L3-4) Work with various forms of input and output (L3) Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in 	<p>Herts for Learning Computing Scheme Units (could be interchanged with units from Y3)</p> <p style="color: red;">Accuracy counts</p> <p style="color: red;">Programming and games</p> <p style="color: red;">Authoring</p>

THROUGHOUT THE YEAR	<p>algorithms and programs (L4)</p> <ul style="list-style-type: none"> • 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 (L4) 	
	<p><u>Digital Literacy</u> Pupils should be taught to:</p> <ul style="list-style-type: none"> • Use search technologies effectively (L3) • Use and select variety of software to accomplish given goals, including collecting data, analyzing information, evaluating information, presenting data and designing and creating content (L3-4) • Select, use and combine internet services (L4) • Use technology safely, respectfully and responsibly (L3) • Identify a range of ways to report concerns about contact (L3-4) • Recognise acceptable / unacceptable behaviour (L4) 	

Year 5
e-safety to be embedded throughout year: to use technology safely, appropriately and responsibly

THROUGHOUT THE YEAR	<p><u>Computer Science</u> Pupils should be taught to:</p> <ul style="list-style-type: none"> • Design, create and debug programs that accomplish specific goals, including controlling or simulating physical systems (L4) • Solve problems by decomposing them into smaller parts (L5) • Use sequence, selection, and repetition in programs (L3-5) • Work with variables (L5) • Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs (L5) • 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 	<p>Herts for Learning Computing Scheme Units (could be interchanged with units from Y6)</p> <p>Data matters</p> <p>Robotics and systems</p> <p>Morphing image</p>

	<p><u>Digital Literacy</u> Pupils should be taught to:</p> <ul style="list-style-type: none"> • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • 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 • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact 	
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Year 6
e-safety to be embedded throughout year: to use technology safely, appropriately and responsibly

<div style="border: 1px solid black; padding: 5px; display: inline-block; transform: rotate(-90deg); transform-origin: center;"> THROUGHOUT THE YEAR </div>	<p><u>Computer Science</u> By end of Key Stage pupils should be taught to:</p> <ul style="list-style-type: none"> • Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • Use sequence, selection, and repetition in programs; work with variables and various forms of input and output • Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • 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 	<p>Herts for Learning Computing Scheme Units (could be interchanged with units from Y5)</p> <p>Staying connected</p> <p>Information Models</p> <p>Sound Works</p>
	<p><u>Digital Literacy</u> By end of Key Stage pupils should be taught to:</p> <ul style="list-style-type: none"> • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • Use, select 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 • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact 	