



## Computing

### Purpose

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

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.

# Lockerley Endowed CofE Primary School – Computing Curriculum



## Objective Coverage across Key Stages

Year Groups and Focus	Objectives in Bold Covered	Cycle 1	Cycle 2
Year 1&2 <i>Computer Science</i>	<ul style="list-style-type: none"> <li>• <b>understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</b></li> <li>• <b>create and debug simple programs</b></li> <li>• <b>use logical reasoning to predict the behaviour of simple programs</b></li> </ul>	<a href="#">Human Crane Algorithms</a> Daisy the Dinosaur 2Simple Logo 2DIY Kodable 2Go Roamer Too	Hopscotch 2Simple Logo 2Code <a href="#">Human Robot Activities</a> Roamer Too
Year 1&2 <i>Digital Literacy</i>	<ul style="list-style-type: none"> <li>• <b>use technology purposefully to create, organise, store, manipulate and retrieve digital content</b></li> </ul>	Taking & editing photos Database & Graphs Text & Images Presenting Information	Taking & editing photos Database & Graphs Text & Images Presenting Information
Year 1&2 <i>Use of Technology</i>	<ul style="list-style-type: none"> <li>• <b>recognise common uses of information technology beyond school</b></li> </ul>	<a href="#">How supermarket works</a> Junk model devices & roleplay	How a bank works Junk model devices & roleplay
Year 1&2 <i>Safety</i>	<ul style="list-style-type: none"> <li>• <b>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.</b></li> </ul>	<b>Circle Times</b> Keeping personal information private Who can I ask <a href="#">Think U Know</a>	<b>Circle Times</b> Keeping personal information private Who can I ask <a href="#">Think U Know</a>

[Other e-safety resources](#)

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Year Groups and Focus	Objectives in Bold Covered	Cycle 1	Cycle 2
Year 3&4 <i>Computer Science</i>	<ul style="list-style-type: none"> <li>• <b>design, write and debug programs that accomplish specific goals</b>, including controlling or simulating physical systems; <b>solve problems by decomposing them into smaller parts</b></li> <li>• <b>use sequence, selection, and repetition in programs; work with variables and various forms of input and output</b></li> <li>• <b>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</b></li> </ul>	Scratch 1.4 <a href="#">Smoking Car Game</a> (2) <a href="#">Dressing Up Game</a> (2) <a href="#">Getting Up Algorithm</a> (3) <a href="#">Maths Quiz</a> (4) <a href="#">Jam Sandwich (Algorithm (bottom))</a> (1) <b>2016+</b> <a href="#">Logo Letters</a>	Scratch 1.4 <a href="#">Music Machine</a> (4) <a href="#">Conversation</a> (2) Lunchtime Algorithms(3) <a href="#">Slug Trail Game</a> (2) <a href="#">Playground Games Flowcharts Algorithms</a> (1) <b>2017+</b> Logo Skyline
Year 3&4 <i>Searching</i>	<ul style="list-style-type: none"> <li>• <b>use search technologies effectively</b>, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> </ul>	Web research via other subject focus <a href="#">Research List</a> (5)	Web research via other subject focus <a href="#">Research List</a> (5)
Year 3&4 <i>Digital Literacy</i>	<ul style="list-style-type: none"> <li>• <b>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</b>, including collecting, analysing, evaluating and <b>presenting data and information</b></li> </ul>	<a href="#">Word Processing</a> (5) <a href="#">Desktop Publishing</a> (5) <a href="#">Presentation Media</a> (5) <a href="#">iPod iPad Skills</a> (2)	<a href="#">Word Processing</a> (5) <a href="#">Desktop Publishing</a> (5) <a href="#">Presentation Media</a> (5) <a href="#">iPod iPad Skills</a> (2)
Year 3&4 <i>Safety</i>	<ul style="list-style-type: none"> <li>• <b>use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</b></li> </ul>	<b>Circle Times</b> <a href="#">Passwords</a> <a href="#">Have your say</a>	<b>Circle Times</b> <a href="#">Passwords</a> <a href="#">Cyber People</a>

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Year Groups and Focus	Objectives in Bold Covered	Cycle 1	Cycle 2
Year 5&6 Computer Science	<ul style="list-style-type: none"> <li><b>design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</b></li> <li><b>use sequence, selection, and repetition in programs; work with variables and various forms of input and output</b></li> <li><b>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</b></li> </ul>	<p><b>Cycle 1 2014-2015 Only</b>  <a href="#">Smoking Car Game</a>(2)  <a href="#">Dressing Up Game</a>(2)  <a href="#">Maths Quiz</a>(4)  <a href="#">Slug Trail Game</a>(2)  <a href="#">Jam Sandwich (Algorithm (bottom))</a>(1)  <b>Cycle 1 2016+</b>  <a href="#">Counting Machine</a>(3)  <a href="#">Perimeter</a>(2)  <a href="#">Primary Games Maker (1 project) (4)</a>  <a href="#">Car Park Barrier</a>(afternoon)* <a href="#">Tilt Switch</a>(afternoon)*</p>	<p><a href="#">Times Tables</a>(3)  <a href="#">Clock</a>(3)  <a href="#">Crab Maze</a>(3)  <a href="#">Primary Games Maker (1 project)</a>  <a href="#">Cartesian Coordinates</a>(1)  <a href="#">Toilet Fan</a>(afternoon)*  <a href="#">Exchange Sort Investigation</a>(2)</p>
Year 5&6 Searching	<ul style="list-style-type: none"> <li><b>use search technologies effectively</b>, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> </ul>	<p>Web research via other subject focus  <a href="#">Research List</a></p>	<p>Web research via other subject focus  <a href="#">Research List</a></p>
Year 5&6 Use of Technology	<ul style="list-style-type: none"> <li><b>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</b></li> <li>use search technologies effectively, <b>appreciate how results are selected and ranked</b>, and be discerning in evaluating digital content</li> </ul>	<p><a href="#">Connecting the Internet</a>  <a href="#">Tracing the Internet</a>  <a href="#">Packet Game</a>                      (3)</p>	<p><a href="#">Linking WWW</a>  <a href="#">How web search works</a>  <a href="#">How a network works</a>                      (3)</p>
Year 5&6 Digital Literacy	<ul style="list-style-type: none"> <li><b>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</b></li> </ul>	<p><a href="#">Spreadsheets</a>(5)  <a href="#">Databases</a>(4)  <a href="#">3D modelling</a>(3)  <a href="#">Podcasting</a>(3)  <a href="#">Animation</a>(4)  <a href="#">Web Publishing</a>(5)</p>	<p><a href="#">Databases</a>(4)  <a href="#">3D modelling</a>(3)  <a href="#">Podcasting</a>(3)  <a href="#">Animation</a>(4)  <a href="#">Spreadsheets</a>(5)</p>
Year 5&6 Safety	<ul style="list-style-type: none"> <li><b>use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</b></li> </ul>	<p><b>Circle Times</b>  <a href="#">Images</a>  <a href="#">Mobile Phones</a>  <a href="#">Keeping our identity private</a></p>	<p><b>Circle Times</b>  <a href="#">Cyber Bullying</a>  <a href="#">Images</a>  <a href="#">Keeping our identity private</a></p>

\*These also contribute towards DT curriculum aim apply their understanding of computing to program monitor and control their products