



# The Newlands Federation of Schools

A partnership of Shere CE Infant & Clandon CE Primary School

play | games | dialogue | stories | nature



## Year One Key Knowledge and Skills Expectations for Computing

Algorithms	Create Programs	Reasoning
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.	Pupils should be taught to create and debug simple programs.	Pupils should be taught to use logical reasoning to predict the behaviour of simple programs.
o Create a series of instructions and plan a journey for a programmable toy	o Create, store and retrieve digital content	

## Year Two Key Knowledge and Skills Expectations for Computing

Algorithms	Create Programs	Reasoning
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.	Pupils should be taught to create and debug simple programs.	Pupils should be taught to use logical reasoning to predict the behaviour of simple programs.
<ul style="list-style-type: none"> <li>o Understand that algorithms are used on digital devices</li> </ul>	<ul style="list-style-type: none"> <li>o Write a simple program and test it</li> </ul>	<ul style="list-style-type: none"> <li>o Predict what the outcome of a simple program will be (logical reasoning)</li> </ul>

Using technology	Uses of IT Beyond School	Safe Use
Pupils should be taught to use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Pupils should be taught to recognise common uses of information technology beyond school.	Pupils should be taught 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 the internet or other online technologies.
<ul style="list-style-type: none"> <li>o Understand that programs require precise instructions</li> <li>o Organise, retrieve and manipulate digital content</li> </ul>	<ul style="list-style-type: none"> <li>o Know how technology is used in school and outside of school</li> </ul>	<ul style="list-style-type: none"> <li>o Know where to go for help if concerned</li> </ul>

## Year Three Key Knowledge and Skills Expectations for Computing

Create Programs	Develop Programs	Reasoning	Networks
Pupils should be taught to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	Pupils should be taught to use sequence, selection, and repetition in programs; work with variables and various forms of input and output.	Pupils should be taught to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Pupils should be taught to 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.
<ul style="list-style-type: none"> <li>Write programs that accomplish specific goals</li> </ul>	<ul style="list-style-type: none"> <li>Design a sequence of instructions, including directional instructions</li> </ul>	<ul style="list-style-type: none"> <li>Discern when it is best to use technology and where it adds little or no value</li> </ul>	<ul style="list-style-type: none"> <li>Navigate the web to complete simple searches</li> </ul>

Search Engines	Using Programs	Safe Use
Pupils should be taught to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	Pupils should be taught to 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.	Pupils should be taught to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.
<ul style="list-style-type: none"> <li>Use a range of software for similar purposes</li> <li>Collect and present information</li> </ul>	<ul style="list-style-type: none"> <li>Understand what computer networks do and how they provide multiple services</li> </ul>	<ul style="list-style-type: none"> <li>Use technology respectfully and responsibly</li> <li>Know different ways they can get help, if concerned</li> </ul>

## Year Four Key Knowledge and Skills Expectations for Computing

Create Programs	Develop Programs	Reasoning
Pupils should be taught to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	Pupils should be taught to use sequence, selection, and repetition in programs; work with variables and various forms of input and output.	Pupils should be taught to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.
<ul style="list-style-type: none"> <li>o Give an 'on-screen robot' specific instructions that takes them from A to B</li> </ul>	<ul style="list-style-type: none"> <li>o Experiment with variables to control models</li> </ul>	<ul style="list-style-type: none"> <li>o Make an accurate prediction and explain why they believe something will happen (linked to programming)</li> </ul>

  

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Pupils should be taught to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	Pupils should be taught to 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.	Pupils should be taught to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.
<ul style="list-style-type: none"> <li>o Select and use software to accomplish given goals</li> </ul>	<ul style="list-style-type: none"> <li>o Produce and upload a podcast</li> </ul>	<ul style="list-style-type: none"> <li>o Recognise acceptable and unacceptable behaviour using technology</li> </ul>

## Year Five Key Knowledge and Skills Expectations for Computing

Create Programs	Develop Programs	Reasoning
Pupils should be taught to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	Pupils should be taught to use sequence, selection, and repetition in programs; work with variables and various forms of input and output.	Pupils should be taught to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.
<ul style="list-style-type: none"> <li>o Use technology to control an external device.</li> </ul>	<ul style="list-style-type: none"> <li>o Develop a program that has specific variables identified</li> </ul>	<ul style="list-style-type: none"> <li>o Analyse and evaluate information reaching a conclusion that helps with future developments</li> </ul>

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Pupils should be taught to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	Pupils should be taught to 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.	Pupils should be taught to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.
<ul style="list-style-type: none"> <li>o Understand how search results are selected and ranked</li> </ul>	<ul style="list-style-type: none"> <li>o Produce and upload a podcast</li> </ul>	<ul style="list-style-type: none"> <li>o Understand that they have to make choices when using technology and that not everything is true and/or safe</li> </ul>

## Year Six Key Knowledge and Skills Expectations for Computing

Create Programs	Develop Programs	Reasoning
Pupils should be taught to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	Pupils should be taught to use sequence, selection, and repetition in programs; work with variables and various forms of input and output.	Pupils should be taught to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.
<ul style="list-style-type: none"> <li>o Give an 'on-screen robot' specific instructions that takes them from A to B</li> </ul>	<ul style="list-style-type: none"> <li>o Experiment with variables to control models</li> </ul>	<ul style="list-style-type: none"> <li>o Make an accurate prediction and explain why they believe something will happen (linked to programming)</li> </ul>

  

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<ul style="list-style-type: none"> <li>o Select and use software to accomplish given goals</li> </ul>	<ul style="list-style-type: none"> <li>o Produce and upload a podcast</li> </ul>	<ul style="list-style-type: none"> <li>o Recognise acceptable and unacceptable behaviour using technology</li> </ul>