



### The Computing Curriculum at Crowthorne – Key Stage 1

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.

<p>NC Objective</p> <p>Pupils should be taught to:</p>	<p><u>Year 1</u></p> <ol style="list-style-type: none"> <li>1. <b>Technology in the Classroom</b></li> <li>2. <b>Creating Media – Digital painting</b></li> <li>3. <b>Programming – moving a robot</b></li> <li>4. <b>Data and information</b></li> <li>5. <b>Creating Media – Digital Writing</b></li> <li>6. <b>Programming – introduction to animation</b></li> </ol>	<p><u>Year 2</u></p> <ol style="list-style-type: none"> <li>1. <b>Computing Networks – Technology around us</b></li> <li>2. <b>Creating Media – Digital Photography</b></li> <li>3. <b>Programming – Robot algorithms</b></li> <li>4. <b>Data and Information – Pictograms</b></li> <li>5. <b>Creating Media – Making Music</b></li> <li>6. <b>Programming – An introduction to quizzes</b></li> </ol>
<ul style="list-style-type: none"> <li>▪ understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Explain what a given command will do 3</li> <li>▪ Combine forwards and backwards command to make a sequence 3</li> <li>▪ Combine four direction commands to make a sequence 3</li> <li>▪ Plan a simple program 3</li> <li>▪ Find more than one solution to a problem 3</li> <li>▪ Choose a command for a given purpose 6</li> <li>▪ Show that a series of commands can be joined together 6</li> <li>▪ To identify the effect of changing a value 6</li> <li>▪ To explain that each sprite has its own instructions 6</li> <li>▪ To design the parts of project 6</li> <li>▪ To use algorithms to create a program 6</li> </ul>	<ul style="list-style-type: none"> <li>▪ To describe a series of instructions as a sequence 3</li> <li>▪ To explain what happens when we change the order of instructions 3</li> <li>▪ To use logical reasoning to predict the outcome of a program (series of commands) 3</li> <li>▪ To explain that programming projects can have code and artwork 3</li> <li>▪ To design an algorithm 3</li> <li>▪ To create and debug a program that I have written 3</li> <li>▪ To explain that a sequence of commands has a start 6</li> <li>▪ To explain that a sequence of commands has an outcome 6</li> <li>▪ To create a program using a given design 6</li> <li>▪ To change a given design 6</li> <li>▪ To create a program using my own design 6</li> <li>▪ To decide how my project can be improved 6</li> </ul>

<ul style="list-style-type: none"> <li>▪ create and debug simple programs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Explain what a given command will do 3</li> <li>▪ Combine forwards and backwards command to make a sequence 3</li> <li>▪ Combine four direction commands to make a sequence 3</li> <li>▪ Plan a simple program 3</li> <li>▪ Find more than one solution to a problem 3</li> <li>▪ Choose a command for a given purpose 6</li> <li>▪ Show that a series of commands can be joined together 6</li> <li>▪ To identify the effect of changing a value 6</li> <li>▪ To explain that each sprite has its own instructions 6</li> <li>▪ To design the parts of project 6</li> <li>▪ To use algorithms to create a program 6</li> </ul>	<ul style="list-style-type: none"> <li>▪ To describe a series of instructions as a sequence 3</li> <li>▪ To explain what happens when we change the order of instructions 3</li> <li>▪ To use logical reasoning to predict the outcome of a program (series of commands) 3</li> <li>▪ To explain that programming projects can have code and artwork 3</li> <li>▪ To design an algorithm 3</li> <li>▪ To create and debug a program that has been written 3</li> <li>▪ To explain that a sequence of commands has a start 6</li> <li>▪ To explain that a sequence of commands has an outcome 6</li> <li>▪ To create a program using a given design 6</li> <li>▪ To change a given design 6</li> <li>▪ To create a program using my own design 6</li> <li>▪ To decide how a project can be improved 6</li> </ul>
<ul style="list-style-type: none"> <li>▪ use logical reasoning to predict the behaviour of simple programs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Explain what a given command will do 3</li> <li>▪ Combine forwards and backwards command to make a sequence 3</li> <li>▪ Combine four direction commands to make a sequence 3</li> <li>▪ Plan a simple program 3</li> <li>▪ Find more than one solution to a problem 3</li> <li>▪ Choose a command for a given purpose 6</li> <li>▪ Show that a series of commands can be joined together 6</li> <li>▪ To identify the effect of changing a value 6</li> <li>▪ To explain that each sprite has its own instructions 6</li> <li>▪ To design the parts of project 6</li> <li>▪ To use algorithms to create a program 6</li> </ul>	<ul style="list-style-type: none"> <li>▪ To describe a series of instructions as a sequence 3</li> <li>▪ To explain what happens when we change the order of instructions 3</li> <li>▪ To use logical reasoning to predict the outcome of a program (series of commands) 3</li> <li>▪ To explain that programming projects can have code and artwork 3</li> <li>▪ To design an algorithm 3</li> <li>▪ To create and debug a program that I have written 3</li> <li>▪ To explain that a sequence of commands has a start 6</li> <li>▪ To explain that a sequence of commands has an outcome 6</li> <li>▪ To create a program using a given design 6</li> <li>▪ To change a given design 6</li> <li>▪ To create a program using my own design 6</li> <li>▪ To decide how my project can be improved 6</li> </ul>
<ul style="list-style-type: none"> <li>▪ use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> </ul>	<ul style="list-style-type: none"> <li>▪ To identify technology 1</li> <li>▪ To identify a computer and its main parts 1</li> <li>▪ To use a mouse in different ways 1</li> <li>▪ To use a keyboard to type on a computer 1</li> <li>▪ To use the keyboard to edit text 1</li> <li>▪ To create rules for using technology responsibly 1</li> </ul>	<ul style="list-style-type: none"> <li>▪ To recognise the uses and features of information technology 1</li> <li>▪ To identify the uses of information technology in the school 1</li> <li>▪ To identify information technology beyond school 1</li> <li>▪ To explain how information technology helps us 1</li> </ul>

	<ul style="list-style-type: none"> <li>▪ To describe what different freehand tools do 2</li> <li>▪ To use the shape tool and the line tools 2</li> <li>▪ To make careful choices when painting a digital picture 2</li> <li>▪ To explain why I chose the tools I used 2</li> <li>▪ To use a computer on my own to paint a picture 2</li> <li>▪ To compare painting a picture on a computer and on paper 2</li> <li>▪ To use a computer to write 5</li> <li>▪ To add and remove text on a computer 5</li> <li>▪ To identify that the look of text can be changed on a computer 5</li> <li>▪ To make careful choices when changing text 5</li> <li>▪ To explain why I used the tools that I chose 5</li> <li>▪ To compare typing on a computer to writing on paper 5</li> <li>▪ To label objects 4</li> <li>▪ To identify that objects can be counted 4</li> <li>▪ To describe objects in different ways 4</li> <li>▪ To count objects with the same properties 4</li> <li>▪ To compare groups of objects 4</li> <li>▪ To answer questions about groups of objects 4</li> </ul>	<ul style="list-style-type: none"> <li>▪ To explain how to use information technology safely 1</li> <li>▪ To recognise that choices are made when using information technology 1</li> <li>▪ To use a digital device to take a photograph 2</li> <li>▪ To make choices when taking a photograph 2</li> <li>▪ To describe what makes a good photograph 2</li> <li>▪ To decide how photographs can be improved 2</li> <li>▪ To use tools to change an image 2</li> <li>▪ To recognise that photos can be changed 2</li> <li>▪ To describe a series of instructions as a sequence 3</li> <li>▪ To explain what happens when we change the order of instructions 3</li> <li>▪ To use logical reasoning to predict the outcome of a program (series of commands) 3</li> <li>▪ To explain that programming projects can have code and artwork 3</li> <li>▪ To design an algorithm 3</li> <li>▪ To create and debug a program that I have written 3</li> <li>▪ To recognise that we can count and compare objects using tally charts 4</li> <li>▪ To recognise that objects can be represented as pictures 4</li> <li>▪ To create a pictogram 4</li> <li>▪ To select objects by attribute and make comparisons 4</li> <li>▪ To recognise that people can be described by attributes 4</li> <li>▪ To explain that we can present information using a computer 4</li> <li>▪ To say how music can make us feel 5</li> <li>▪ To identify that there are patterns in music 5</li> <li>▪ To show how music is made from a series of notes 5</li> <li>▪ To show how music is made from a series of notes 5</li> <li>▪ To create music for a purpose 5</li> <li>▪ To review and refine our computer work 5</li> </ul>
<ul style="list-style-type: none"> <li>▪ recognise common uses of information technology beyond school</li> </ul>	<ul style="list-style-type: none"> <li>▪ To identify technology 1</li> <li>▪ To identify a computer and its main parts 1</li> <li>▪ To use a mouse in different ways 1</li> <li>▪ To use a keyboard to type on a computer 1</li> </ul>	<ul style="list-style-type: none"> <li>▪ To recognise the uses and features of information technology 1</li> <li>▪ To identify the uses of information technology in the school 1</li> </ul>

	<ul style="list-style-type: none"> <li>▪ To use the keyboard to edit text 1</li> <li>▪ To create rules for using technology responsibly 1</li> <li>▪ To explain what a given command will do</li> <li>▪ To act out a given word</li> <li>▪ To combine forwards and backwards commands to make a sequence 3</li> <li>▪ To combine four direction commands to make sequences 3</li> <li>▪ To plan a simple program 3</li> <li>▪ To find more than one solution to a problem 3</li> </ul>	<ul style="list-style-type: none"> <li>▪ To identify information technology beyond school 1</li> <li>▪ To explain how information technology helps us 1</li> <li>▪ To explain how to use information technology safely 1</li> <li>▪ To recognise that choices are made when using information technology 1</li> <li>▪ To use a digital device to take a photograph 2</li> <li>▪ To make choices when taking a photograph 2</li> <li>▪ To describe what makes a good photograph 2</li> <li>▪ To decide how photographs can be improved 2</li> <li>▪ To use tools to change an image 2</li> <li>▪ To recognise that photos can be changed 2</li> </ul>
<ul style="list-style-type: none"> <li>▪ 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.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Children learn about online safety, including keeping personal information private and knowing where to go for help. (SUM1 and 2)</li> <li>▪ To identify technology 1</li> <li>▪ To identify a computer and its main parts 1</li> <li>▪ To use a mouse in different ways 1</li> <li>▪ To use a keyboard to type on a computer 1</li> <li>▪ To use the keyboard to edit text 1</li> <li>▪ To create rules for using technology responsibly 1</li> <li>▪ To label objects 4</li> <li>▪ To identify that objects can be counted 4</li> <li>▪ To describe objects in different ways 4</li> <li>▪ To count objects with the same properties 4</li> <li>▪ To compare groups of objects 4</li> <li>▪ To answer questions about groups of objects 4</li> <li>▪ To use a computer to write 5</li> <li>▪ To add and remove text on a computer 5</li> <li>▪ To identify that the look of text can be changed on a computer 5</li> <li>▪ To make careful choices when changing text 5</li> <li>▪ To explain why I used the tools that I chose 5</li> <li>▪ To compare typing on a computer to writing on paper 5</li> </ul> <p>Lifewise units: How Technology has changed Using technology safely (EYFS repeat) Digital Citizenship</p>	<ul style="list-style-type: none"> <li>▪ To recognise the uses and features of information technology 1</li> <li>▪ To identify the uses of information technology in the school 1</li> <li>▪ To identify information technology beyond school 1</li> <li>▪ To explain how information technology helps us 1</li> <li>▪ To explain how to use information technology safely 1</li> <li>▪ To recognise that choices are made when using information technology 1</li> <li>▪ To use a digital device to take a photograph 2</li> <li>▪ To make choices when taking a photograph 2</li> <li>▪ To describe what makes a good photograph 2</li> <li>▪ To decide how photographs can be improved 2</li> <li>▪ To use tools to change an image 2</li> <li>▪ To recognise that photos can be changed 2</li> <li>▪ To recognise that we can count and compare objects using tally charts 4</li> <li>▪ To recognise that objects can be represented as pictures 4</li> <li>▪ To create a pictogram 4</li> <li>▪ To select objects by attribute and make comparisons 4</li> <li>▪ To recognise that people can be described by attributes 4</li> <li>▪ To explain that we can present information using a computer 4</li> </ul> <p>LifeWise – Cyber Safety Part 1 and 2 How relaxation and technology can work together</p>

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|  |  | ▪ Digital Citizenship |
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All year groups have an online safety unit to include