

## The Sonar Computer Scientist YR-Y6: Subject Leader Overview

Computer Science  
E-Safety  
Information Technology  
Digital Literacy

Year Group	Standardised Objectives
Year 1	<ul style="list-style-type: none"><li>• Begin to develop an understanding of algorithms</li><li>• Begin to understand that programs work by following instructions</li><li>• Create simple programs and begin to debug them</li><li>• Develop reasoning to predict the behaviour of simple programs</li><li>• Begin to recognise common uses of information technology beyond school</li><li>• Develop an understanding of how to use technology safely</li><li>• Know where to go for help/support when they have concerns about content/contact on internet</li><li>• Use technology to create, store and retrieve digital content</li></ul>
Year 2	<ul style="list-style-type: none"><li>• Understand what algorithms are</li><li>• Understand how algorithms are implemented as programs on digital devices</li><li>• Understand that programs execute by following precise and unambiguous instructions</li><li>• Use logical reasoning to predict the behaviour of simple programs</li><li>• Create and debug simple programs</li><li>• Recognise common uses of information technology beyond school</li><li>• Use technology safely and respectfully, keeping personal information private</li><li>• Identify where to go for help/support when they have concerns about content/contact on internet/other online technologies</li><li>• Use technology purposefully to create, store, retrieve, organise and manipulate digital content</li></ul>

Year 3	<ul style="list-style-type: none"> <li>• Start to use reasoning to understand how algorithms work</li> <li>• Detect errors in algorithms and programs</li> <li>• Begin to solve problems by decomposing them into smaller parts</li> <li>• Start to use sequence and selection in programs</li> <li>• Begin to develop understanding of how to write and debug programs that accomplish specific goals</li> <li>• Begin to work with various forms of input/output</li> <li>• Show emerging understanding of computer networks including the internet and how they provide multiple services</li> <li>• Use some search technologies effectively and appreciate how results are ranked</li> <li>• Decide which questions to ask when using search engines</li> <li>• Use technology safely, responsibly and respectfully</li> <li>• Recognise acceptable/unacceptable behaviour</li> <li>• Identify ways to report concerns about content/contact</li> <li>• Use a variety of software on digital devices</li> </ul>
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Year 4	<ul style="list-style-type: none"> <li>• Use logical reasoning to understand how algorithms work</li> <li>• Detect and correct errors in algorithms and programs</li> <li>• Begin to solve problems by decomposing them into smaller parts</li> <li>• Start to use sequence, selection and repetition in programs</li> <li>• Write and debug programs that accomplish specific goals</li> <li>• Work with variables and various forms of input/output</li> <li>• Understand computer networks including the internet and how they provide multiple services</li> <li>• Use search technologies effectively and appreciate how results are selected and ranked</li> <li>• Evaluate the reliability of digital content</li> <li>• Begin to ask and answer questions based on the reliability of digital content</li> <li>• Recognise acceptable/unacceptable behaviour and identify ways to report concerns about content/contact</li> <li>• Select and use a variety of software on digital devices</li> </ul>
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Year 5	<ul style="list-style-type: none"> <li>• Use logical reasoning to understand how algorithms work and detect and correct errors in algorithms and programs</li> <li>• Solve problems by decomposing them into smaller parts</li> <li>• Use sequence, selection and repetition in programs</li> <li>• Write and debug programs that accomplish specific goals</li> <li>• Accurately manipulate variables and various forms of input/output</li> <li>• Use a wide range of search technologies effectively and appreciate how results are selected and ranked</li> <li>• Be discerning in evaluating the reliability of digital content</li> <li>• Recognise the opportunities computer networks offer for communication and collaboration</li> <li>• Confidently, competently and responsibly use information and communication technology</li> <li>• Express own ideas by selecting, using and combining a variety of software on digital devices to design and create programs</li> </ul>
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Year 6	<ul style="list-style-type: none"> <li>• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems</li> <li>• Solve problems by decomposing them into smaller parts</li> <li>• Use sequence, selection and repetition accurately in programs</li> <li>• Accurately manipulate a wide range of variables and various forms of input/output</li> <li>• Securely use logical reasoning to understand how algorithms work and detect and correct errors in algorithms and programs</li> <li>• Appreciate how results are selected and ranked and use this to retrieve accurate content</li> <li>• Be discerning in evaluating the reliability of digital content</li> <li>• Use the opportunities computer networks offer for communication and collaboration</li> <li>• Confidently, competently and responsibly use information and communication technology</li> <li>• Express own ideas by selecting, using and combining a variety of software on a range of digital devices and create programs</li> </ul>
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