



Hawkesley Church Primary Academy
Computing - KS2 to KS3 Bridging Document

<u>KS2 National Curriculum End points</u>	<u>How do we prepare children at the end of Year 6?</u>	<u>Year 7 End Points</u>
<p>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 - 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, 	<p>Once children have met and securely achieved the National Curriculum end points for KS2, what do children need to do to meet Year 7 starting points:</p> <ul style="list-style-type: none"> • Look at computer programmes used in real-world problems and physical systems • understand several key algorithms that reflect computational thinking – be able to sort and search using programming • design and develop modular programs that use procedures or functions – using hour of code • Introduction to Boolean logic and understand how numbers can be represented in binary, and be able to carry out simple operations • Project focus on selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data – link with Science • Know how to repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability • Apply understanding of internet safety and revisit how to ensure you keep yourself safe when using online platforms 	<ul style="list-style-type: none"> • design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems • understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem • use 2 or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions • understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers [for example, binary addition, and conversion between binary and decimal] • understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems • understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds

<p>analysing, evaluating and presenting data and information</p> <ul style="list-style-type: none">- use technology safely, respectfully and responsibly; recognise acceptable / unacceptable behaviour; identify a range of ways to report concerns about content and contact.		<p>and pictures) can be represented and manipulated digitally, in the form of binary digits</p> <ul style="list-style-type: none">• undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users• create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability• understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct, and know how to report concerns
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