

COMPUTING SKILLS PROGRESSION MAP



St. Michael's Church of England Primary School

Our school values: Respect • Kindness • Challenge • Forgiveness • Perseverance

NATIONAL CURRICULUM		YEAR 3	YEAR 4	YEAR 5	YEAR 6
Programming	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems	<ul style="list-style-type: none"> • Create a sequence of commands using a block language to produce a given outcome • Debug errors to accomplish specific goal 	<ul style="list-style-type: none"> • Plan a program using a block language which includes appropriate loops to produce a given outcome • Debug errors in increasingly complex programs to accomplish a specific goal 	<ul style="list-style-type: none"> • Plan a program which includes selection to produce a given outcome • Debug errors in increasingly complex programs to accomplish a specific goal 	<ul style="list-style-type: none"> • Plan a program which includes selection to produce a given outcome • Debug errors in increasingly complex programs to accomplish specific goals

	Solve problems by decomposing them into smaller parts	<ul style="list-style-type: none"> • Work with others to decompose a problem into smaller steps when planning a project 	<ul style="list-style-type: none"> • Independently decompose a problem into smaller steps when planning a project 	<ul style="list-style-type: none"> • Plan a solution to a problem using decomposition 	<ul style="list-style-type: none"> • Solve problems using decomposition, tackling each part separately
	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output	<ul style="list-style-type: none"> • Explain the order (sequence) of commands can effect the outcome(same commands, different order -> same or different outcome) • Identify that different sequences can achieve the same outcome 	<ul style="list-style-type: none"> • Identify patterns (repetition) in a sequence • Understand repetition in programming is also called looping 	<ul style="list-style-type: none"> • Define that conditional statements (selection) are used in computer programs • Explain a loop can stop when a condition is met (number of times or event) • Explain a that program flow can branch according to a condition • Use a condition in an <i>if...then...</i> statement to produce a given outcome 	<ul style="list-style-type: none"> • Define that conditional statements (selection) are used in computer programs • Explain a loop can stop when a condition is met (number of times or event) • Explain a that program flow can branch according to a condition • Use a condition in an <i>if...then...</i> statement to produce a given outcome

	<p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p>	<ul style="list-style-type: none">• Explain simple, sequence-based algorithm independently• Use logical reasoning to detect errors in programs	<ul style="list-style-type: none">• Explain an algorithm using sequence and repetition independently• Use logical reasoning to detect and correct errors in programs	<ul style="list-style-type: none">• Explain an algorithm using sequence and repetition independently• Use logical reasoning to detect and correct errors in programs	<ul style="list-style-type: none">• Explain an algorithm using sequence, repetition and selection independentlyUse logical reasoning to detect errors in increasingly complex programs
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National Curriculum		Year 3	Year 4	Year 5	Year 6	
Information Technology	Digital Research	<p>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</p>	<ul style="list-style-type: none"> • Search for information in a single site • Understand that search engines select pages according to keywords found in the content 	<ul style="list-style-type: none"> • Use a standard search engine to find information • Understand that search engines rank pages according to relevance. 	<ul style="list-style-type: none"> • Use filters to make more effective use of a standard search engine • Understand that search engines use a cached copy of the crawled web to select and rank results 	<ul style="list-style-type: none"> • Use of a range of search engines appropriate to finding information that is required • Understand that search engines rank pages based on the number and quality of in-bound links

	Creating Digital Content	Text	<p>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</p>	<ul style="list-style-type: none"> • Combine text and images to share a message • Consider how different layouts can suit different purposes • Type with increased confidence and speed using age-appropriate punctuation • Use return to create paragraphs • Change orientation of text • Wrap text around an image • Recognise a document can be formatted with placeholders 	<p>Use cross-curricular opportunities to consolidate previous learning from Year 1 –Year 3</p>	<p>Use cross-curricular opportunities to consolidate previous learning from Year 1 – Year 3</p>	<ul style="list-style-type: none"> • Recognise components of a webpage layout • Create a webpage including text, images, hyperlinks and embedded content • Understand the need for a navigation path
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		Images		<ul style="list-style-type: none">• Change orientation of images	<ul style="list-style-type: none">• Use a computer to (further) manipulate images• Recognise images can be changed for different purposes• Use the most appropriate tool for a particular purpose• Consider the impact of changes made on the quality of the image	<ul style="list-style-type: none">• Recognise an image is comprised of separate objects• Add, remove, modify and combine objects to create graphical drawing on a computer• Recognise objects are layered• Recognise that objects can be modified in groups• Consider the impact of choices made	
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	Data Handling	Collecting, analysing, evaluating and presenting data and information	<ul style="list-style-type: none"> • Identify object attributes needed to collect relevant data • Create a branching database • Identify objects using a branching database • Compare information shown in a pictogram with a branching database • Explain that data can be used to answer questions 			<ul style="list-style-type: none"> • Identify questions that can be answered using data • Create a spreadsheet for a purpose • Apply a formula that can be used to produce calculated data • Recognise data can be calculated using different operations • Evaluate results in comparison to the question asked • Choose suitable ways to present data
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National Curriculum		Year 3	Year 4	Year 5	Year 6	
Digital Literacy	Online Safety	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.				See related document: Online Safety Skills Progression (Education for a Connected World) and Jigsaw PSHE units

	Computing Systems and Networks	<p>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</p>	<ul style="list-style-type: none"> • Explain how a computer network can be used to share information • Explore how digital devices can be connected • Recognise the physical components of a network • Explain how digital devices function • Identify input and output devices 	<ul style="list-style-type: none"> • Describe how networks physically connect to other networks • Recognise how networked devices make up the internet • describe how content can be added and accessed on the World Wide Web • Recognise how the content of the WWW is created and shared by people • Describe the current limitations of World Wide Web media 	<ul style="list-style-type: none"> • Explain that computers can be connected together to form systems • Recognise the role of computer systems in our lives • Recognise how information is transferred over the internet • Explain how sharing information online lets people in different places work together • Contribute to a shared project online • Evaluate different ways of working together online 	<p>Continue to develop online searching skills to enhance online communication and collaboration</p>
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