



**ENDSLEIGH
HOLY CHILD**
VC ACADEMY

Endsleigh Holy Child VC Academy

Computing long term curriculum plan

KS2

Key stage 2 – Cycle A

	Autumn 1 Computers & networks	Autumn 2 Computer Science	Spring 1 Computer Science	Spring 2 Computer Science	Summer 1 Computer Science	Summer 2 Creating Media
Class 3	<u>Connecting computers</u>	<u>Smoking car</u> Decomposition & debugging	<u>Conversation</u> Algorithms	<u>Interactive display</u> Algorithms	<u>Assessment</u>	<u>Desktop publishing</u>
Class 3/4	<u>The internet (y4)</u>	<u>Music machine (y3)</u> Algorithms & Evaluation	<u>Maths quiz (y4)</u> Algorithms & variables	<u>Dressing up (y3)</u> Generalisation	<u>Selection investigation (y4)</u> Generalisation	<u>Photo editing (y4)</u>
Class 4/5	<u>The internet (y4)</u>	<u>Slug trail (y4)</u> Decomposition	<u>Train your computer to do maths (y4)</u> Generalisation & algorithms	<u>Music abstraction (y5)</u> Abstraction	<u>Crab maze (y5)</u> Decomposition	<u>Photo editing (y4)</u>
Class 5/6	<u>How is information shared? (y5)</u>	<u>Counting machine (y5)</u> Evaluation	<u>Random word (y5)</u> Generalisation	<u>Coin program (y5)</u> Computational thinking	<u>Angle sorter (y5)</u> Generalisation & algorithms	<u>Video editing (y5)</u>
Class 6	<u>Communication</u>	<u>Times table game</u> Decomposition & evaluation	<u>Perimeter program</u> Generalisation & algorithms	<u>Cartesian coordinates</u> Debugging	<u>Chatbot</u> Generalisation & evaluation	<u>Video editing</u>



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Progression of curriculum statements across year groups:

	Curriculum statement	Year 3	Year 4	Year 5	Year 6
Computer science	<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 	<ul style="list-style-type: none"> To write simple code To begin to decompose processes To use simple debugging techniques To understand the terms bug, debug and decomposition To create code using keyboard inputs To use mouse click input to start code To draw own sprite To use music code blocks independently To begin to understand repetition in computing To evaluate peers' programming To create an algorithm in analogue form To convert an algorithm into Scratch code To test and debug a program To code and create an interactive display To create an algorithm for the display To use simple debugging techniques To understand copyright in simple terms To use mouse click inputs to change costumes To use mouse click inputs to change colours To begin to use repeat loops 	<ul style="list-style-type: none"> To decompose a program To use continuous loops and conditions (if/else) To investigate continuous loops using pen blocks To generalise selection within a loop <ul style="list-style-type: none"> To use if/else selection To use broadcasting to trigger other blocks To use a variable for scores To design a quiz algorithm To identify which parts of the algorithm became which parts of the code To create and work with variables to store and manipulate numbers To convert simple maths problems into algorithms and then into code To generalise an algorithm to solve different maths problems To use symbols in algorithms Use simple selection within a loop independently Investigate if and if/else selections 	<ul style="list-style-type: none"> To solve simple maths problems using Scratch code To understand the benefit of changing a variable within a loop To investigate and modify a simple program that changes a variable To begin to look for ways to generalise this idea elsewhere <ul style="list-style-type: none"> To explain how to use abstraction to reduce the complexity of a task To identify important aspects and discard unimportant aspects To create a musical algorithm and symbols to record pitch Convert an algorithm into code and test To create a list To randomly access items in a list To combine lists and text to produce meaning To begin to think of ways this might be used elsewhere To use greater and less than when comparing numbers To spot a pattern in a partially completed algorithm To convert an algorithm to code To use an algorithm (flow chart) to identify bugs <ul style="list-style-type: none"> To decompose a game To program a multilevel game To debug errors To use coordinates to move sprites To examine a basic menu system that uses conditional selection on people's age To extend the menu system on people's age To re-purpose (generalise) the menu system for sorting angles To begin to understand the importance of ordering information To use And Or statements (Boolean logic) 	<ul style="list-style-type: none"> To decompose a game independently To use the decomposed plan to create a new version To find solutions independently to programming challenges To begin to evaluate code efficiently <ul style="list-style-type: none"> To create a perimeter formula To convert a formula into code To generalise this idea for further shapes To test and find weak points in the code To use x and y coordinates in all 4 quadrants in Scratch To write a sequence of code to map coordinates in all 4 quadrants To reflect and evaluate on their code To be able to use conditional selection independently To be able to evaluate peers' code To identify where variables can be used to store information To code a sprite to respond to a user's specific answer



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Digital Literacy

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| <ul style="list-style-type: none"> • 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, analysing, evaluating and presenting data and information • 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"> • To explain how digital devices function • To identify input and output devices • To recognise how digital devices can change the way we work • To explain how a computer network can be used to share information • To explore how digital devices can be connected • To recognise the physical components of a network • To recognise how text and images convey information • To recognise that text and layout can be edited • To choose appropriate page settings • To add content to a desktop publishing publication • To consider how different layouts can suit different purposes • To consider the benefits of desktop publishing | <ul style="list-style-type: none"> • To describe how networks physically connect to other networks • To recognise how networked devices make up the internet • To outline how websites can be shared via the World Wide Web • To describe how content can be added and accessed on the World Wide Web • To recognise how the content of the WWW is created by people • To evaluate the consequences of unreliable content • To explain that digital images can be changed • To change the composition of an image • To describe how images can be changed for different uses • To make good choices when selecting different tools • To recognise that not all images are real • To evaluate how changes can improve an image | <ul style="list-style-type: none"> • To explain that computers can be connected together to form systems • To recognise the role of computer systems in our lives • To recognise how information is transferred over the internet • To explain how sharing information online lets people in different places work together • To contribute to a shared project online • To evaluate different ways of working together online • To recognise video as moving pictures, which can include audio • To identify digital devices that can record video • To capture video using a digital device • To recognise the features of an effective video • To identify that video can be improved through reshooting and editing • To consider the impact of the choices made when making and sharing a video | <ul style="list-style-type: none"> • To identify how to use a search engine • To describe how search engines select results • To explain how search results are ranked • To recognise why the order of results is important, and to whom • To recognise how we communicate using technology • To evaluate different methods of online communication |
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E-safety teaching and learning opportunities are highlighted in red and also addressed in Internet safety week and use of Google Interland