



### Computing Progression - 2021/2022

Year Group	Term	Strand of Computing	Concept	Unit Name	Learning Outcomes (Pupils will learn:)	Content/skills taught (computing programme of study)	Software/ Hard Ware
<b>Year 1</b>	Autumn Term	E-Safety	Information	<b><u>We are E-Safety Experts</u></b> (renamed from We are TV Chefs - Rising Stars)	<p><b><u>To film a step-by-step video based on an element of e-safety</u></b> (logging onto a computer whilst explaining the steps of remaining safe - e.g. do not share your password)</p> <ul style="list-style-type: none"> <li>• Break down a process into simple, clear steps (an algorithm)</li> <li>• Use an iPad to capture moving image</li> <li>• Use audio in the back of the video</li> <li>• Develop collaboration skills</li> <li>• Discuss their work and how it could be improved</li> </ul>	<ul style="list-style-type: none"> <li>• Understand what algorithms are</li> <li>• Use technology purposefully to create, organise and store digital content</li> <li>• Recognise common uses of information technology beyond school</li> </ul>	Laptops  iPads (for filming purposes)
	Spring Term	Digital Literacy	Creators	<b><u>We are Digital Artists</u></b>	<p><b><u>To create a piece of artwork online inspired by a digital artist (Rothko)</u></b></p> <ul style="list-style-type: none"> <li>• How to select and set brushes and colours</li> <li>• To create artwork on an iPad in different ways</li> <li>• To use the undo button if mistakes are made and to encourage experimentation</li> <li>• To use multiple layers in their art</li> <li>• To transform layers</li> </ul>	<ul style="list-style-type: none"> <li>• Use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>• Recognise common uses of information technology beyond school</li> </ul>	iPads/or laptops  Kiliki App

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<b><u>Year 1</u></b>	Summer Term	Computer Science	Computer Science - Programming	<b><u>We are Treasure Hunters</u></b>	<p><b><u>To program a robot to follow an algorithm and to debug it</u></b></p> <ul style="list-style-type: none"> <li>• That a programmable robot can be controlled by inputting a sequence of instructions</li> <li>• To develop and record sequences of instructions as an algorithm</li> <li>• To program a robot to follow their algorithm</li> <li>• To debug programs</li> <li>• To predict how their programs will work</li> </ul>	<ul style="list-style-type: none"> <li>• Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute them by following precise instructions</li> <li>• Create and de-bug a simple program</li> <li>• Predict the behaviour of the simple programs using logical reasoning</li> </ul>	Bee-Bots
<b><u>Year 2</u></b>	Autumn Term	E-Safety	Information and Communication	<b><u>We are Safe Researches</u></b>	<p><b><u>To work collaboratively to create a presentation based on a theme surrounding e-safety</u></b></p> <ul style="list-style-type: none"> <li>• Develop collaboration skills through working as part of a group</li> <li>• Develop research skills through searching for information on the internet</li> <li>• Think through privacy implications when using search engines</li> <li>• Become more discerning in evaluating online information</li> <li>• Use mind-maps to bring ideas together</li> <li>• Develop presentation skills through creating and delivering a short presentation based on the chosen theme</li> </ul>	<ul style="list-style-type: none"> <li>• Use technology to create, organise, store, manipulate and retrieve digital content</li> <li>• Recognise common uses of information technology beyond school</li> </ul> <p>Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content on the Internet or other online technologies</p>	iPads Laptops



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<b><u>Year 2</u></b>	Spring Term	Digital Literacy	Creators	<b><u>We are Animators</u></b>	<p><b><u>To create a stop-motion animation using Stop-Motion Studio</u></b></p> <ul style="list-style-type: none"> <li>• Understand how animation works and what it is</li> <li>• Use storyboards to plan an animation</li> <li>• Create their own original character(s), prop and background(s) for their animation</li> <li>• Film, review and edit a stop-motion animation</li> <li>• Record audio to accompany their animation</li> <li>• Provide constructive feedback to one another regarding the animation</li> </ul>	<ul style="list-style-type: none"> <li>• Use technology to create, organise, store, manipulate and retrieve digital content</li> <li>• Recognise common uses of information technology beyond school</li> <li>• Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content on the Internet or other online technologies</li> </ul>	iPads Stop Motion Studio app
	Summer Term	Computer Science	Computer Science - Programming	<b><u>We are Astronauts</u></b>	<p><b><u>To plan a sequence of instructions to test and debug on ScratchJr</u></b></p> <ul style="list-style-type: none"> <li>• Plan a sequence of instructions to move sprites in ScratchJr</li> <li>• Create, test and debug programs for sprites in ScratchJr</li> <li>• Work with input and output in ScratchJr</li> <li>• Use repetition in their programs</li> </ul>	<ul style="list-style-type: none"> <li>• Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute them by following precise instructions</li> <li>• Create and debug simple programs</li> <li>• Use logical reasoning to predict the behaviour of the simple programs</li> </ul>	iPads/Laptops ScratchJr app



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<b><u>Year 3</u></b>	Autumn Term	E-Safety	Information and Communication	<b><u>We are Co-Authors</u></b>	<p><b><u>Producing a class page for the school website</u></b></p> <ul style="list-style-type: none"> <li>• Understand the conventions for collaborative online work</li> <li>• Be aware of their responsibilities when editing other people’s work</li> <li>• Become familiar with the school website, including potential problems associated with this</li> <li>• Practise research skills</li> <li>• Write for a target audience</li> <li>• Develop collaboration</li> <li>• Develop proofreading skills</li> </ul>	<ul style="list-style-type: none"> <li>• 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</li> <li>• Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>• Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content</li> </ul>	Laptops
	Spring Term	Digital Literacy	Information and Communication	<b><u>We are Who We Are</u></b>	<p><b><u>Creating a presentation about myself using an online program and presenting it to an audience</u></b></p> <ul style="list-style-type: none"> <li>• Create a number of structured slides based on different elements in my life</li> <li>• Narrate the presentation whilst presenting it to an audience</li> <li>• Consider issues of trust and privacy when sharing information about yourself</li> </ul>	<ul style="list-style-type: none"> <li>• Select, use and combine a variety of software to design and create content that accomplishes given goals, including presenting information.</li> <li>• Use technology safely, respectfully and responsibly</li> </ul>	Laptops



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<b><u>Year 3</u></b>	Summer Term	Computer Science	Computer Science - Programming	<b><u>We are Programmers</u></b>	<p><b><u>Programming an animation</u></b></p> <ul style="list-style-type: none"> <li>• Plan and create an algorithm for an animated scene in the form of a storyboard</li> <li>• Write a program in Scratch to create the animation, including characters, dialogue, costumes, backdrops and correct mistakes</li> </ul>	<ul style="list-style-type: none"> <li>• Debug programs that accomplish specific goals</li> <li>• Use sequence, selection and repetition in programs; work with variables and various forms of input and output</li> <li>• Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</li> </ul>	iPads/Laptops Scratch app
<b><u>Year 4</u></b>	Autumn Term	E-Safety	Information and Communication	<b><u>We are Bloggers</u></b>	<p><b><u>Sharing experiences and opinions through the creation of my own blog post</u></b></p>	<ul style="list-style-type: none"> <li>• 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</li> <li>• Use a variety of software (including internet services) to create a range of content that accomplishes given goals</li> <li>• Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour.</li> </ul>	Laptops/iPads Google Classroom



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<b>Year 4</b>	Spring Term	Digital Literacy	Creators	<b><u>We are Musicians</u></b>	<p><b><u>Creating a piece of music using the Garageband app</u></b></p> <ul style="list-style-type: none"> <li>• Create a repeating percussion rhythm</li> <li>• Play music using virtual instruments</li> <li>• Compose or edit tunes using the piano roll (pitch and duration) tool</li> <li>• Perform electronic music using pre-recorded loops, and create their own loops</li> <li>• Create a multi-track composition or performance using multiple instruments on the app</li> <li>• Provide feedback to others on their compositions and performances</li> </ul>	<ul style="list-style-type: none"> <li>• Use sequence and repetition; work with various forms of input and output</li> <li>• Be discerning in evaluating digital content</li> <li>• Select, use and combine a variety of software to create a range of content that accomplishes specific goals</li> <li>• Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour</li> </ul>	iPads Garageband App
	Summer Term	Computer Science	Computer Science - Programming	<b><u>We are Makers</u></b>	<p><b><u>Creating codes for micro:bit</u></b></p> <ul style="list-style-type: none"> <li>• Learn about the input-process-output model of computation</li> <li>• Understand the inputs and outputs available on BBC micro:bit</li> <li>• To program using the MakeCode block-based environment</li> <li>• To test and debug programs they write, using an on-screen simulator and the micro:bit</li> <li>• Learn how to convert and transfer a program written on screen to the micro:bit.</li> </ul>	<ul style="list-style-type: none"> <li>• Design, write and debug simple programs that accomplish specific goals</li> <li>• Use sequence, selection and repetition in programs; work with variables and various forms of input and output</li> <li>• Use logical reasoning to explain how simple algorithms work.</li> </ul>	iPads MakeCode Micro:bit



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<u>Year 5</u>	Autumn Term	E-Safety	Information and Communication	<u>We are Web Developers</u>	<p><b><u>Making sense of the internet and creating an interactive e-safety poster</u></b></p> <ul style="list-style-type: none"> <li>• Learn the name and function of components making up the school's network</li> <li>• Know how information is passed between components that make up the internet</li> <li>• What the source code for a web page looks like and how it can be edited</li> <li>• How an online poster can be structured</li> <li>• How to add content to an online poster</li> </ul>	<ul style="list-style-type: none"> <li>• 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</li> <li>• Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing and evaluating and presenting data and information.</li> <li>• Use technology safely and respectfully and responsibly</li> <li>• Recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact</li> <li>• Be discerning in evaluating digital content.</li> </ul>	Laptops





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<b>Year 5</b>	Spring Term	Digital Literacy	Creators	<b><u>We are Architects</u></b>	<p><b><u>Creating a virtual space (online art gallery)</u></b></p> <ul style="list-style-type: none"> <li>• Understand the work of architects, designers and engineers working in 3-D</li> <li>• Develop familiarity with a simple computer aided design (CAD) tool</li> <li>• Develop spatial awareness by exploring and experimenting with a 3-D virtual environment</li> <li>• Develop greater aesthetic awareness</li> </ul>	<ul style="list-style-type: none"> <li>• Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>• Select, use and combine a variety of software 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 information.</li> </ul>	iPads SketchUp App
	Summer Term	Computer Science	Computer Science - Programming	<b><u>We are Game Developers</u></b>	<p><b><u>Developing an interactive game</u></b></p> <ul style="list-style-type: none"> <li>• Create original artwork and sound for a game</li> <li>• Design and create a computer program for a computer game, which uses sequence, selection, repetition and variables</li> <li>• Detect and correct errors in the computer game</li> <li>• Use interactive development techniques (making and testing a series of small changes) to improve their game.</li> </ul>	<ul style="list-style-type: none"> <li>• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems and solving problems by decomposing them into smaller parts</li> <li>• Use sequence, selection and repetition in programs; work with variables and various forms of input and output</li> <li>• Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> </ul>	Laptops Scratch





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<b>Year 6</b>	Autumn Term	E-Safety	Information and Communication	<b><u>We are Connected</u></b>	<p><b><u>Developing skills for social media</u></b></p> <ul style="list-style-type: none"> <li>• Learn about appropriate rules or guidelines for a civil online discussion</li> <li>• How search results are selected and ranked</li> <li>• How to argue a point of view effectively, supporting views with sources</li> <li>• How to counter someone else's argument while still showing respect and tolerance</li> <li>• How to judge the reliability of an online source</li> <li>• Some strategies to deal with online bullying</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the opportunities computer networks offer for communication and collaboration</li> <li>• Use search technologies effectively, appreciating how results are selected and ranked, and be discerning in evaluating digital content</li> <li>• Use technology safely and respectfully and responsibly; recognise acceptable/unacceptable behaviour; identifying ways to report concerns about content</li> </ul>	Laptops/iPads
	Spring Term	Digital Literacy	Creators	<b><u>We are Advertisers</u></b>	<p><b><u>Create a short television advert</u></b></p> <ul style="list-style-type: none"> <li>• Think critically about how video is used to promote a cause</li> <li>• Storyboard an effective advert for a cause</li> <li>• Work collaboratively to shoot original footage and source additional content</li> <li>• Acknowledge intellectual property rights</li> <li>• Work collaboratively to edit the assembled content to make an effective advert, fit for a cause</li> </ul>	<ul style="list-style-type: none"> <li>• Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>• Select, use and combine a variety of software (including internet services) on a range of digital devices and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</li> <li>• Use technology safely and respectfully and responsibly; recognise acceptable/unacceptable behaviour; identifying ways to report concerns about content</li> </ul>	iPads iMovie



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<b>Year 6</b>	Summer Term	Computer Science	Computer Science - Programming	<b><u>We are Toy Makers</u></b>	<p><b><u>Create a toy using coding and physical computing</u></b></p> <ul style="list-style-type: none"> <li>• Learn how computers use stored programs to connect input and output</li> <li>• How to generate and evaluate designs in response to a brief</li> <li>• Plan a complex project by decomposing it into smaller parts</li> <li>• To work with physical components of a system</li> <li>• How to design and write a program for an embedded system</li> <li>• To use criteria to provide others with feedback on their work</li> </ul>	<ul style="list-style-type: none"> <li>• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems</li> <li>• Use sequence, selection and repetition in programs; work with various forms of input and output.</li> <li>• Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</li> </ul>	Laptops/ Chromebooks  Microbits  MakeCode (or Scratch)

