

**“We presume children to achieve their very best.”**

*Keevil CofE Academy Mission Statement*

We know that for children to achieve their best our curriculum needs to be designed in order to enable the maximum amount of learning, through the recall and understanding of knowledge and concepts. Therefore our curriculum is organised as a progression which facilitates the re-visiting of learning through recurrent themes, such that it becomes embedded in children’s long term memory. We also understand the importance of children making connections between prior and new learning. The cyclical nature of our curriculum design, in which topics are returned to over the course of a child’s time with us, helps to enable this.

Our rationale for the teaching of computing follows that detailed in the National Curriculum:

### ***Purpose of study***

*A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.*

### ***Aims***

*The national curriculum for computing aims to ensure that all pupils:*

- *can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation*
- *can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems*
- *can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems*

- *are responsible, competent, confident and creative users of information and communication technology.*

We ensure our Computing Curriculum is rooted in the vision and ethos of the school, through ensuring that as well as delivering technical knowledge and skills lessons it also develop the Keevil Characteristics:

Through Computing lessons children learn how to communicate responsibly and safely in a range of different technological ways. They require diligence and resilience as they learn how to use and apply knowledge they have learnt. Through application of programming skills they have developed they have to problem-solve in a variety of different situations and scenarios. Children are encouraged to support one another's learning in the classroom, therefore growing their team work skills.

## Keevil C of E Academy ICT Knowledge and Skills Progression

Theme	EYFS	KS1	Lower KS2	Upper KS2
	<b>Knowledge</b>	<b>Knowledge</b>	<b>Knowledge</b>	<b>Knowledge</b>
<b>E-Safety</b>	<ul style="list-style-type: none"> <li>To be able to understand the importance of asking for help from an adult when on the internet.</li> <li>Explain the reasons for rules, know right from wrong and try to behave accordingly.</li> </ul>	<ul style="list-style-type: none"> <li>Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</li> </ul>	<ul style="list-style-type: none"> <li>Use technology safely and respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>	<ul style="list-style-type: none"> <li>Use technology safely and respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>
	<b>Skills</b>	<b>Skills</b>	<b>Skills</b>	<b>Skills</b>
	<ul style="list-style-type: none"> <li>With help (and an appropriate internet filter) search for and choose images from the internet.</li> <li>With support, use appropriate websites or CD ROMs to locate small amounts of information</li> <li>Use a digital microscope to look more closely at objects</li> <li>With support, use appropriate buttons, menus and hyperlinks to navigate web sites / CD ROMs or stored information</li> <li>Access different information using a range of equipment (tape recorders, website, TV, DVD etc)</li> <li>Children understand that they can find a range of information on the internet</li> </ul>	<ul style="list-style-type: none"> <li>Children are able to navigate age-appropriate websites</li> <li>Children know what to do if they find something inappropriate online</li> <li>Children understand that the internet can be used to communicate with other people</li> <li>Children know that not everything on the internet is true</li> <li>Children practise e-safety when communicating online</li> <li>Children use the Internet to undertake independent purposeful research, gathering appropriate text and image and attempt to distinguish between fact and fiction</li> </ul>	<ul style="list-style-type: none"> <li>Children understand how they can use the internet safely for research and by following lines of enquiry</li> <li>Know how to guard against giving out personal information</li> <li>Know what to do if they are affected by cyber bullying</li> <li>Use digital etiquette when communicating on-line</li> <li>Children understand that good online research involves processing the information (rather than copying) and interpreting it for others.</li> <li>Children recognise issues of copyright and the importance of acknowledging sources</li> </ul>	<ul style="list-style-type: none"> <li>Know how to guard against giving out personal information</li> <li>Know what to do if they are affected by cyber bullying</li> <li>Use digital etiquette when communicating on-line</li> <li>Children can begin to use a range of online communication tools eg. Forums, polls and email to exchange and develop ideas with other learners and experts in a range of curriculum contexts</li> </ul>
	<b>Keevil Characteristics</b>	<b>Keevil Characteristics</b>	<b>Keevil Characteristics</b>	<b>Keevil Characteristics</b>
	This area requires good communication and learning skills to embed the strategies for safe internet use.	This area requires good communication and learning skills to embed the strategies for safe internet use.	This area requires good communication and learning skills to embed the strategies for safe internet use.	This area requires good communication and learning skills to embed the strategies for safe internet use.
<b>Systems and Data</b>	<b>Knowledge</b>	<b>Knowledge</b>	<b>Knowledge</b>	<b>Knowledge</b>
		<ul style="list-style-type: none"> <li>Recognise common uses for information technology beyond school.</li> </ul>	<ul style="list-style-type: none"> <li>Understand computer network, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunity they offer for communication and collaboration.</li> </ul>	<ul style="list-style-type: none"> <li>Understand computer network, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunity they offer for communication and collaboration.</li> </ul>
	<b>Skills</b>	<b>Skills</b>	<b>Skills</b>	<b>Skills</b>
	<ul style="list-style-type: none"> <li>Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.</li> <li>Safely use and explore a variety of tools and techniques, experimenting with function.</li> </ul>	<ul style="list-style-type: none"> <li>Identify how can computers help you learn</li> <li>To identify computer icons</li> </ul>	<ul style="list-style-type: none"> <li>Selects a variety of software to accomplish given goals</li> <li>Selects, uses and combines internet services</li> <li>Analyses and evaluates information</li> <li>Collects and presents data</li> </ul>	<ul style="list-style-type: none"> <li>Combines a variety of software to accomplish given goals</li> <li>Selects, uses and combines software on a range of digital devices</li> <li>Analyses and evaluates data</li> <li>Designs and creates systems</li> </ul>

	Keevil Characteristics	Keevil Characteristics	Keevil Characteristics	Keevil Characteristics
		This area requires good diligence and learning skills as well as a resilience when using these technology.	This area requires good diligence and learning skills as well as a resilience when using these technology.	This area requires good diligence and learning skills as well as a resilience when using these technology.
<b>Digital Tools Including Digital Literacy</b>	<b>Knowledge</b>	<b>Knowledge</b>	<b>Knowledge</b>	<b>Knowledge</b>
	<ul style="list-style-type: none"> <li>• Uses technology purposefully to create digital content</li> <li>• To understand that technology can be used to record information.</li> </ul>	<ul style="list-style-type: none"> <li>• Use technology purposefully to create, organise and store, manipulate and retrieve digital content.</li> </ul>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in their evaluation of digital content.</li> </ul>
	<b>Skills</b>	<b>Skills</b>	<b>Skills</b>	<b>Skills</b>
	<ul style="list-style-type: none"> <li>• Developing mouse control – moving, clicking, dragging etc.</li> <li>• Use simple drag and drop matching software – first with pictures or sounds moving to letters and text.</li> <li>• Begin to use a keyboard (with support) and notice the effect on screen.</li> <li>• With support (and a lower case keyboard) type simple words, their name, etc...</li> <li>• With help add captions to photographs, graphics and sound (perhaps choosing words from a prepared word list).</li> <li>• With help begin to create simple story</li> <li>• Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.</li> <li>• Safely use and explore a variety of tools and techniques, experimenting with function.</li> </ul>	<b>Word Processing</b> <ul style="list-style-type: none"> <li>• Email/ Letter etiquette</li> <li>• Formatting</li> <li>• Titles and Headings</li> </ul> <b>Writing reports</b> <ul style="list-style-type: none"> <li>• Titles and headings</li> <li>• Headers and footers</li> </ul> <b>Presenting information</b> <ul style="list-style-type: none"> <li>• PowerPoint slides</li> <li>• Presentations on topics etc</li> </ul> <b>Desktop publishing</b> <ul style="list-style-type: none"> <li>• Making posters</li> </ul> <b>Spreadsheets</b> <ul style="list-style-type: none"> <li>• Used to make pirate maps</li> <li>• Creating graphs and charts</li> </ul> <b>Art and Design</b> <ul style="list-style-type: none"> <li>• ... to extend art concepts and enhance presentation</li> </ul>	<b>Word Processing</b> <ul style="list-style-type: none"> <li>• Email/ Letter etiquette</li> <li>• Formatting</li> <li>• Titles and Headings</li> </ul> <b>Presenting information</b> <ul style="list-style-type: none"> <li>• PowerPoint slides</li> <li>• Master slides</li> <li>• Transitions and animations</li> <li>• Presentations on topics etc.</li> </ul> <b>Spread sheets</b> <ul style="list-style-type: none"> <li>• Used to support maths</li> </ul> <b>Art and Design</b> <ul style="list-style-type: none"> <li>• ... and Publisher to extend art concepts and enhance presentation</li> </ul> <b>AI</b> <b>To begin to use Adobe Firefly and Chat GTP to develop their creative skills</b>	<b>Writing reports</b> <ul style="list-style-type: none"> <li>• Cover page</li> <li>• Contents page</li> <li>• Page numbers</li> <li>• Titles and headings</li> <li>• Headers and footers</li> </ul> <b>Desktop publishing</b> <ul style="list-style-type: none"> <li>• Making posters</li> </ul> <b>Spread sheets</b> <ul style="list-style-type: none"> <li>• Used to support maths</li> <li>• Creating graphs and charts</li> </ul> <b>Art and Design</b> <ul style="list-style-type: none"> <li>• ... and Publisher to extend art concepts and enhance presentation</li> </ul> <b>Digital Images</b> <ul style="list-style-type: none"> <li>• To use ... to edit photos</li> </ul> <b>AI</b> <b>To begin to use Adobe Firefly and Chat GTP to continue to develop their creative skills and explore ways that this software can be used.</b>
	<b>Keevil Characteristics</b>	<b>Keevil Characteristics</b>	<b>Keevil Characteristics</b>	<b>Keevil Characteristics</b>
	Good learning in this area requires resilience when learning new skills and diligence when applying the learning.	Good learning in this area requires resilience when learning new skills and diligence when applying the learning.	Good learning in this area requires resilience when learning new skills and diligence when applying the learning.	Good learning in this area requires resilience when learning new skills and diligence when applying the learning.
<b>Logic and Problem Solving</b>	<b>Knowledge</b>	<b>Knowledge</b>	<b>Knowledge</b>	<b>Knowledge</b>
		<ul style="list-style-type: none"> <li>• Use logical reasoning to predict the behaviour of simple programs</li> <li>• To create and debug simple programs</li> <li>• Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise unambiguous instructions.</li> </ul>	<ul style="list-style-type: none"> <li>• Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</li> </ul>	<ul style="list-style-type: none"> <li>• Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</li> </ul>

			<ul style="list-style-type: none"> <li>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</li> </ul>	<ul style="list-style-type: none"> <li>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</li> </ul>
	<b>Skills</b>	<b>Skills</b>	<b>Skills</b>	<b>Skills</b>
	<ul style="list-style-type: none"> <li>Play with a variety of electronic toys.</li> <li>Play with old remote controls in role play</li> <li>Use a remote control to operate devices (TV, robot, toys)</li> <li>Play with simple toys that respond immediately to a single command</li> <li>Give simple instructions to another child to navigate them around a course.</li> <li>Program a simple floor robot (<b>Bee Bot</b>) to carry out a short sequence of steps (planning ahead)</li> <li>Begin to understand cause and effect when controlling toys</li> <li>Play with equipment that simulates control devices (traffic lights, pelican crossing, scanner devices, cash tills etc.</li> <li>Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.</li> <li>Safely use and explore a variety of tools and techniques, experimenting with function.</li> </ul>	<ul style="list-style-type: none"> <li>Code.org <a href="https://code.org/">https://code.org/</a></li> <li>Course I</li> </ul>	<ul style="list-style-type: none"> <li>Code.org <a href="https://code.org/">https://code.org/</a></li> <li>Course II</li> <li>Scratch use procedural programming</li> <li>Sequence/Procedure/Error/Debug</li> <li>Practice tasks to cover required skills before project with success criteria</li> <li>Using Adobe Firefly to adapt images</li> <li>To use Chat GTP to write about images</li> </ul>	<ul style="list-style-type: none"> <li>Code.org <a href="https://code.org/">https://code.org/</a></li> <li>Course III</li> <li>Scratch use procedural programming</li> <li>Sequence/Loops/Selection/Procedure/Error/Debug</li> <li>Practice tasks to cover required skills before project with success criteria</li> <li>Using Adobe Firefly and Chat GTP to write about images and explore uses</li> </ul>
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