

Computing Progression Ladder English Martyrs

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
National Curriculum objectives Digital Literacy and E-Safety		Pupils should be taught to 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 their online technologies.		Pupils should be taught to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour, identify a range of ways to report concerns about content and contact. Be discerning in evaluating digital content.			
Vocabulary progression	Choices, internet, website	Rules Online Private information Email	Appropriate/inappropriate sites Cyber-bullying Digital footprint Keyword searching	E-safety rules Secure passwords Report abuse button Gaming Blogs		Responsible online communication Informed choices Virus threats Blogs Messaging	
Digital Literacy and E -Safety		<ul style="list-style-type: none"> I can keep my password private. I can tell you what personal information is. I can tell an adult when I see something unexpected or worrying online. I can talk about why it's important to be kind and polite. I can recognise an age appropriate website. I can agree and follow sensible e-Safety rules. I can begin to use a keyboard, mouse, trackpad and touchscreen. 	<ul style="list-style-type: none"> I can explain why I need to keep my password and personal information private. I can describe the things that happen online that I must tell an adult about. I can talk about why I should go online for a short amount of time. I can talk about why it is important to be kind and polite online and in real life. I know that not everyone is who they say they are on the Internet. I can use a keyboard, mouse, trackpad and touchscreen with more confidence. 	<ul style="list-style-type: none"> I can talk about what makes a secure password and why they are important. I can protect my personal information when I do different things online. I can use the safety features of websites as well as reporting concerns to an adult. I can recognise websites and games appropriate for my age. I can make good choices about how long I spend online. I ask an adult before downloading files and games from the Internet. I can post positive comments online I understand why it is important for me to use and view only the apps, websites or films that are appropriate to my age I can use a keyboard, mouse, trackpad and touchscreen with more confidence. 	<ul style="list-style-type: none"> I choose a secure password when I am using a website. I can talk about the ways I can protect myself and my friends from harm online. I use the safety features of websites as well as reporting concerns to an adult. I know that anything I post online can be seen by others. I choose websites and games that are appropriate for my age. I can help my friends make good choices about the time they spend online. I can talk about why I need to ask a trusted adult before downloading files and games from the Internet. I comment positively and respectfully online. I understand why it is important for me to use and view only the apps, websites or films that are appropriate to my age I can use a keyboard, mouse, trackpad and touchscreen confidently 	<ul style="list-style-type: none"> I protect my password and other personal information. I can explain why I need to protect myself and my friends and the best ways to do this, including reporting concerns to an adult. I know that anything I post online can be seen, used and may affect others. I can talk about the dangers of spending too long online or playing a game. I can explain the importance of communicating kindly and respectfully. I can discuss the importance of choosing an age-appropriate website or game. I can explain why I need to protect my computer or device from harm. I know which resources on the Internet I can download and use. I understand why it is important for me to use and view only the apps, websites or films that are appropriate to my age I can use a mouse, trackpad and touchscreen confidently and begin to touch type on a keyboard. 	<ul style="list-style-type: none"> I protect my password and other personal information. I can explain the consequences of sharing too much about myself online. I support my friends to protect themselves and make good choices online, including reporting concerns to an adult. I can explain the consequences of spending too much time online or on a game. I can explain the consequences to myself and others of not communicating kindly and respectfully. I protect my computer or device from harm on the Internet. I understand why it is important for me to use and view only the apps, websites or films that are appropriate to my age. I can use a mouse, trackpad and touchscreen confidently and can type on a keyboard at a reasonable rate of speed and accuracy.
	NC Programming		Pupils should be taught to understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs.		Pupils should be taught to 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. 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.		
Vocabulary Progression	Equipment Buttons Movement	Instructions Buttons Robots Patterns Program	Forward Backward Right-angle turn Algorithm Sequence Debug Predict	Sequence instructions Sequence debugging Test + improve Logo commands Sequence programming	Type + edit logo commands Sensors Open-ended problems Bugs in programs Complex programming	Explore procedures Refine procedures Variable Hardware + software control Change inputs Different outputs Articulate solutions Commands	Predicting outputs Plan, program, test & review a program Program writing Control mimics + devices Sensors Measure input Create variables Link errors

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Programming	Give commands/instructions e.g. forward, backwards, go, stop, when using simple software/hardware Make choices about the buttons/icons to press, touch or click on when using simple software/hardware.	<ul style="list-style-type: none"> • I can give instructions to my friend and follow their instructions to move around. • I can describe what happens when I press buttons on a robot. • I can press the buttons in the correct order to make my robot do what I want. • I can describe what actions I will need to do to make something happen and begin to use the word algorithm. • I can begin to predict what will happen for a short sequence of instructions. • I can begin to use software/apps to create movement and patterns on a screen. • I can use the word debug when I correct mistakes when I program. 	<ul style="list-style-type: none"> • I can give instructions to my friend (using forward, backward and turn) and physically follow their instructions. • I can tell you the order I need to do things to make something happen and talk about this as an algorithm. • I can program a robot or software to do a particular task. • I can begin to understand the vocabulary and importance of sequence and repetition. • I can look at my friend's program and tell you what will happen. • I can use programming software to make objects move around the screen. • I can watch a program execute and spot where it goes wrong so that I can debug it. 	<ul style="list-style-type: none"> • I can break an open-ended problem up into smaller parts. • I can put programming commands into a sequence to achieve a specific outcome. • I keep testing my program and can recognise when I need to debug it. • I understand and can use basic selection and repetition in algorithms. • I can create and describe the algorithm I will need for a simple task. • I can detect a problem in an algorithm which could result in unsuccessful programming. 	<ul style="list-style-type: none"> • I can use logical thinking to solve an open-ended problem by breaking it up into smaller parts. • I can understand and can use selection (as well as sequence and repetition) in algorithms and programming. • I can use inputs to determine or trigger an action within my program. • I know that I need to keep testing my program while I am putting it together. • I can use a variety of tools to create a program. • I can recognise an error in a program and debug it. • I recognise that an algorithm will help me to sequence more complex programs. • I recognise that using algorithms will also help solve problems in other learning such as Maths, Science and Design and Technology. 	<ul style="list-style-type: none"> • I can decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program. • I can refine a procedure using repeat commands to improve a program. • I can understand and use variables within my programming. • I can use input to alter and affect my variables. • I can confidently use sequence, selection and repetition within my algorithms and programming. • I can design, build and program physical systems using inputs, process and outputs. • I can use logical reasoning to detect and debug mistakes in a program. • I use logical thinking, imagination and creativity to extend a program. 	<ul style="list-style-type: none"> • I can deconstruct a problem into smaller steps, recognising similarities to solutions used before. • I can explain and program each of the steps in my algorithm. • I can evaluate the effectiveness and efficiency of my algorithm while I continually test the programming of that algorithm. • I can recognise when I need to use a variable to achieve a required output. • I can use a variable and operators to stop a program (and understand why 'forever loops' can be inappropriate). • I can use different inputs (including sensors) to control a device or onscreen action and predict what will happen. • I can use logical reasoning to detect and correct errors in a algorithms and programs.
	NC handling Data		Pupils should be taught to use technology purposefully to organise and manipulate digital content.		Pupils should be taught to 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.		
Vocabulary Progression	Collect Set of photos Count Organise	Photographs Video Sound Data Pictogram Digitally	Capturing moments Magnified images Questions Data collection Graphs Charts Save Retrieve	Questioning Database Construct Contribute Recording data Data logger Present data	Database creation Database searches Inaccurate data	Spreadsheets Complex searches (and/or: </>) Problem solving Present answers Analyse information Question data Interpret	Generate Process Interpret Store Present information Plausibility Appropriate data tool Interrogate Investigations

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<h2 style="writing-mode: vertical-rl; transform: rotate(180deg);">Handling Data</h2>		<ul style="list-style-type: none"> • I can talk about the different ways in which information can be shown. • I can use technology to collect information, including photos, video and sound. • I can sort different kinds of information and present it to others. • I can add information to a pictograph and talk to you about what I have found out. 	<ul style="list-style-type: none"> • I talk about the different ways I use technology to collect information, including a camera, microscope or sound recorder. • I can make and save a chart or graph using the data I collect. • I can talk about the data that is shown in my chart or graph. • I am starting to understand a branching database. • I can tell you what kind of information I could use to help me investigate a question. 	<ul style="list-style-type: none"> • I can talk about the different ways data can be organised. • I can search a ready-made database to answer questions. • I can collect data help me answer a question. • I can add to a database. • I can make a branching database. • I can use a data logger to monitor changes and can talk about the information collected. 	<ul style="list-style-type: none"> • I can organise data in different ways. • I can collect data and identify where it could be inaccurate. • I can plan, create and search a database to answer questions. • I can choose the best way to present data to my friends. • I can use a data logger to record and share my readings with my friends. 	<ul style="list-style-type: none"> • I can use a spreadsheet and database to collect and record data. • I can choose an appropriate tool to help me collect data.. • I can present data in an appropriate way. • I can search a database using different operators to refine my search. • I can talk about mistakes in data and suggest how it could be checked. 	<ul style="list-style-type: none"> • I can plan the process needed to investigate the world around me. • I can select the most effective tool to collect data for my investigation. • I can check the data I collect for accuracy and plausibility. • I can interpret the data I collect. • I can present the data I collect in an appropriate way. • I use the skills I have developed to create, manipulate and interrogate a Spreadsheet.
NC objectives Multimedia		Pupils should be taught to use technology purposefully to create digital content		Pupils should be taught to 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.			
Vocabulary Progression	Screen Mouse Images Keyboard Paint	Videos Camera stills Sounds Image bank Word bank Space bar	Paint effects Templates Animation Documents Brush size Repeats Reflections Green screening Amend Copy Paste	Multimedia Presentations Alignment Brush size Repeats Reflections Green screening Amend Copy Paste	Creating + modifying Specific purpose Photo modifying Keyboard shortcuts Bullet points Spell check Constructive feedback	Online sharing Multimedia effects Multimedia modification Transitions Hyperlinks Editing tools Refining Online sharing	Appropriate online tools Audience Atmosphere Structure Copyright Information collection HTML code Storing
<h2 style="writing-mode: vertical-rl; transform: rotate(180deg);">Multimedia</h2>	<p>I can manage a device by correctly closing websites or apps and safely turning on and off.</p> <p>Input commands using the space bar, backspace, enter, letters and numbers on a keyboard on any device (including on a tablet).</p> <p>Input commands using a mouse to control a cursor and use the left click to select options OR use finger control to interact with a tablet (double tap, swipe)</p> <p>Experience simple apps and software and use these to present ideas</p>	<ul style="list-style-type: none"> • I can be creative with different technology tools. • I can use technology to create and present my ideas. • I can use the keyboard or a word bank on my device to enter text. • I can save information in a special place and retrieve it again. 	<ul style="list-style-type: none"> • I can use technology to organise and present my ideas in different ways. • I can use the keyboard on my device to add, delete and space text for others to read. • I can tell you about an online tool that will help me to share my ideas with other people. • I can save and open files on the device I use. 	<ul style="list-style-type: none"> • I can create different effects with different technology tools. • I can combine a mixture of text, graphics and sound to share my ideas and learning. • I can use appropriate keyboard commands to amend text on my device, including making use of a spellchecker. • I can evaluate my work and improve its effectiveness. • I can use an appropriate tool to share my work online. 	<ul style="list-style-type: none"> • I can use photos, video and sound to create an atmosphere when presenting to different audiences. • I am confident to explore new media to extend what I can achieve. • I can change the appearance of text to increase its effectiveness. • I can create, modify and present documents for a particular purpose. • I can use a keyboard confidently and make use of a spellchecker to write and review my work. • I can use an appropriate tool to share my work and collaborate online. • I can give constructive feedback to my friends to help them improve their work and refine my own work. 	<ul style="list-style-type: none"> • I can use text, photo, sound and video editing tools to refine my work. • I can use the skills I have already developed to create content using unfamiliar technology. • I can select, use and combine the appropriate technology tools to create effects that will have an impact on others. • I can select an appropriate online or offline tool to create and share ideas. • I can review and improve my own work and support others to improve their work. 	<ul style="list-style-type: none"> • I can talk about audience, atmosphere and structure when planning a particular outcome. • I can confidently identify the potential of unfamiliar technology to increase my creativity. • I can combine a range of media, recognising the contribution of each to achieve a particular outcome. • I can tell you why I select a particular online tool for a specific purpose. • I can be digitally discerning when evaluating the effectiveness of my own work and the work of others.
NC objectives Technology in our lives		Pupils should be taught to use technology purposefully to store and retrieve digital content		Pupils should be taught to 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.			

