

Curriculum Overview for Computing

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
<b>Reception</b>	<p><b>E-SAFETY</b></p> <ul style="list-style-type: none"> <li>• Play appropriate games on the Internet.</li> <li>• Talk about good and bad choices in real life e.g. taking turns, saying kind things, helping others, telling an adult if something upsets you.</li> </ul>	<p><b>PROGRAMMING</b> <i>Beebots</i> - Programme them one move at a time.</p> <ul style="list-style-type: none"> <li>• Help adults operate equipment around the school, independently operating simple equipment.</li> <li>• Use simple software to make things happen.</li> <li>• Explore options and make choices with toys, software and websites.</li> <li>• Press buttons on a floor robot and talk about the movements.</li> </ul>	<p><b>MULTIMEDIA</b> <i>2Paint</i></p> <ul style="list-style-type: none"> <li>• Cont... from Term 2</li> <li>• Develop an interest in ICT by using age appropriate websites or programs.</li> <li>• Recognise text, images and sound when using ICT.</li> <li>• Use a camera or sound recorder to collect photos or sound.</li> </ul>			<p><b>TECHNOLOGY IN OUR LIVES</b> <i>Mouse Island Game</i></p> <ul style="list-style-type: none"> <li>• Help adults operate equipment around the school.</li> <li>• Independently operate simple equipment.</li> <li>• See their own work online e.g. on the school website.</li> </ul>
		<p><b>MULTIMEDIA</b> <i>2Paint</i></p> <ul style="list-style-type: none"> <li>• Use a mouse to rearrange objects and pictures on a screen. Begin to use a keyboard.</li> <li>• Cont... in Term 3.</li> </ul>				



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Year 1	<p><b>E-SAFETY</b> <i>Lee &amp; Kim's Animal Magic</i></p> <ul style="list-style-type: none"> <li>• Agree e-safety rules for class.</li> <li>• Use a selection of websites and consider who can see the information online.</li> <li>• Play appropriate games on internet, including games against real people.</li> <li>• Talk about how adults can help us, eg when we see something we don't like or makes us feel uncomfortable.</li> <li>• Play games that reinforce the idea of personal information, including password privacy.</li> </ul>	<p><b>MULTIMEDIA</b> <i>2Paint &amp; 2Publish</i></p> <ul style="list-style-type: none"> <li>• Cont... from Term 1.</li> <li>• Use paint programmes to create pictures.</li> <li>• Add text and images to a template document using an image and word bank.</li> </ul>	<p><b>HANDLING DATA</b> <i>2Count – pictograms</i></p> <ul style="list-style-type: none"> <li>• Contribute to and interpret a pictogram.</li> <li>• Take photographs, video and record sound to record learning experiences.</li> <li>• Look at how data is representing digitally.</li> </ul>	<p><b>TECHNOLOGY IN OUR LIVES</b> <i>In school</i></p> <ul style="list-style-type: none"> <li>• Identify uses of technology in the classroom, at home and in the local area.</li> <li>• Talk about using the Internet and using resources on the local device.               <ul style="list-style-type: none"> <li>• Explore simple information sources including age appropriate websites.</li> </ul> </li> </ul>	<p><b>MULTIMEDIA</b> <i>2 Create a story</i></p> <ul style="list-style-type: none"> <li>• Cont... from Term 2.</li> <li>• Record their own voices and play back to an audience.</li> <li>• Use a video or stills camera to record an activity.</li> <li>• Create sounds and simple music phrases using ICT tools.</li> </ul>	<p><b>PROGRAMMING</b> <i>Beebots</i> –sequencing steps.</p> <ul style="list-style-type: none"> <li>• Physically follow and give each other instructions to move around.</li> <li>• Explore outcomes when buttons are pressed in sequences on a robot.</li> <li>• Begin to identify an algorithm to achieve a specific purpose.</li> <li>• Execute a program on a floor robot to achieve an algorithm.</li> <li>• Begin to predict what will happen for a short sequence of instructions in a program.</li> <li>• Begin to use software to create movement and patterns on a screen.</li> <li>• Use the word debug to correct any mistakes when programming a floor robot.</li> </ul>
	<p><b>MULTIMEDIA</b> <i>2Type</i></p> <ul style="list-style-type: none"> <li>• Use index fingers (on L &amp; R hand) on a keyboard to build words &amp; sentences.</li> <li>• Know when &amp; how to use the SPACE BAR (thumbs) to make spaces between words.</li> <li>• Cont... in Term 2</li> </ul>					

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<b>Year 2</b>	<p><b>E-SAFETY</b> <i>Hector's World</i></p> <ul style="list-style-type: none"> <li>• Agree sensible e-safety rules for the classroom.</li> <li>• Use a selection of websites and consider who can see the information online.</li> <li>• Play appropriate games on the internet, including games against real people.</li> <li>• Talk about how adults can help us, including when we see something we don't like or something makes us feel uncomfortable.</li> <li>• Play games that reinforce idea of personal information, including password privacy.</li> </ul>	<p><b>MULTIMEDIA</b> <i>2Publish, 2Create a Story &amp; MS Word</i></p> <ul style="list-style-type: none"> <li>• Use an increasing variety of tools and effects in paint programs and talk about their choices.</li> <li>• Create own documents, adding text and images.</li> <li>• Use templates to make electronic books individually and in pairs.</li> <li>• Explore the effects of sound and music in animation and video.</li> </ul>	<p><b>TECHNOLOGY IN OUR LIVES</b> <i>Age appropriate websites</i></p> <ul style="list-style-type: none"> <li>• Identify the purposes for using technology in the classroom, at home and in the world around.</li> <li>• Find information from a technology based resource such as the Internet, DVD or files on the public drive and talk about the differences and who the information belongs to.</li> </ul> <p>[Talk about whether information is true or not].</p>		<p><b>PROGRAMMING</b> <i>J2code &amp; JIT</i></p> <ul style="list-style-type: none"> <li>• Physically follow and give others forward, backward and turn (right-angle) instructions.</li> <li>• Describe an algorithm to achieve a purpose. <ul style="list-style-type: none"> <li>• Plan and enter a sequence of instructions to achieve an algorithm, with a robot specifying distance and turn and drawing a trail.</li> <li>• Predict what will happen &amp; test results.</li> <li>• Explore outcomes when giving instructions in a simple Logo program. <ul style="list-style-type: none"> <li>• Watch a Logo program execute using 'allow programming' in 2Go, debug any problems.</li> </ul> </li> <li>• Talk about similarities and differences between floor robots and logo on screen.</li> </ul> <p>(Software could also be used to control a model.)</p> </li></ul>	<p><b>HANDLING DATA</b> <i>2Graph</i></p> <ul style="list-style-type: none"> <li>• Ask questions and consider how they will collect information. <ul style="list-style-type: none"> <li>• Collect data, generate graphs and charts to find answers.</li> </ul> </li> <li>• Save and retrieve the data to show to others.</li> <li>• Create paper/object decision trees and explore a branching database. <ul style="list-style-type: none"> <li>• Take and save photographs, video and record sound to capture learning. Use microscopes or other devices to capture and save magnified images.</li> </ul> </li> <li>• Investigate different types of digital data e.g. online encyclopaedias.</li> </ul>
	<p><b>MULTIMEDIA</b> <i>2Paint &amp; MS Word</i></p> <ul style="list-style-type: none"> <li>• Use keyboard to enter text (use both hands).</li> <li>• Know when &amp; how to use ENTER key.</li> <li>• Use SHIFT and CAPS LOCK to enter capital letters.</li> <li>• Use DELETE and BACKSPACE keys correct text.</li> <li>• Create sentences, SAVE &amp; edit them later.</li> </ul>					

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Year 3	<p><b>E-SAFETY</b> <i>Captain Kara &amp; The Smart Crew</i></p> <ul style="list-style-type: none"> <li>• Agree sensible e-safety rules for the classroom.</li> <li>• Choose a secure password for age-appropriate websites.</li> <li>• Discuss what actions could be taken if they are uncomfortable or upset online e.g. Report Abuse button.</li> <li>• Talk about what games they enjoying playing and what good choices are when playing games e.g. content, screen time.</li> <li>• Use a class blog to share information and talk about who can see it, and how to communicate safely and respectfully</li> <li>• Comment and provide positive feedback on the work of classmates in school or online, or the work of others online.</li> </ul>	<p><b>MULTIMEDIA</b> <i>MS Word</i></p> <p>Insert picture from the internet Audience/purpose</p>	<p><b>PROGRAMMING</b> <i>Scratch</i></p> <ul style="list-style-type: none"> <li>• Plan &amp; enter sequence of instructions on a robot specifying distance and turn to achieve specific outcomes. Debug the sequence as necessary.</li> <li>• Test &amp; improve/debug programmed sequences.</li> <li>• Begin to type logo commands to achieve outcomes.</li> <li>• Explore outcomes when giving sequences of instructions in Logo software.</li> <li>• Use repeat to achieve solutions to tasks.</li> <li>• Solve open-ended problems with a floor robot and Logo including creating simple regular polygons, making sounds and planning movements such as a dance.</li> <li>• Create an algorithm to tell a joke or a simple story using Scratch or Tynker.</li> <li>• Sequence pre-written lines of programming into order.</li> <li>• Talk about algorithms planned by others and identify problems and the expected outcome.</li> </ul>	<p><b>MULTIMEDIA</b> <i>Photostory 3?</i></p> <ul style="list-style-type: none"> <li>• Explore and begin to evaluate the use of multimedia (photos, video and sound) to enhance communication.</li> <li>• Create and begin to edit text &amp; presentation documents, experimenting with fonts, size, colour, alignment for emphasis and effect.</li> <li>• Use a range of effects in art programs including brush sizes, repeats, reflections.</li> <li>• Explore the use of video, animation, and greenscreening.</li> <li>• Use ICT tools to create musical phrases.</li> <li>• Amend text and save changes.</li> <li>• Use individual fingers to input text and use SHIFT key to type characters.</li> <li>• Amend text by highlighting and using SELECT/DELETE and COPY/PASTE.</li> <li>• Look at own work and consider how it can be improved for effectiveness.</li> </ul>	<p><b>TECHNOLOGY IN OUR LIVES</b> <i>What is the Internet? Ppt on server (post office explanation). Using search engines to find websites.</i></p> <ul style="list-style-type: none"> <li>• Save work on the school network, on the Internet and on individual devices.</li> <li>• Talk about the parts of a computer.</li> <li>• Use appropriate tools to collaborate on-line.</li> <li>• Use appropriate tools to communicate on-line.</li> <li>• Use simple search tools and find appropriate websites.</li> <li>• Talk about the owner of information online.</li> </ul>	<p><b>DATA HANDLING</b> <i>Textease Branch</i></p> <ul style="list-style-type: none"> <li>• Find out information from a pre-prepared database, asking straightforward questions.</li> <li>• Contribute towards a database.</li> <li>• Construct and use a branching database.</li> </ul>

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<b>Year 4</b>	<p><b>E-SAFETY</b> <i>CBBC Caught in the Web</i></p> <ul style="list-style-type: none"> <li>• Agree sensible e-safety rules for the classroom.</li> <li>• Choose a secure password for age-appropriate websites.</li> <li>• Discuss what actions could be taken if they are uncomfortable or upset online e.g. Report Abuse button.</li> <li>• Talk about what games they enjoying playing and what good choices are when playing games e.g. content, screen time.</li> <li>• Use a class blog to share information and talk about who can see it, and how to communicate safely and respectfully.</li> <li>• Comment and provide positive feedback on the work of classmates in school or online, or the work of others online.</li> </ul>	<p><b>MULTIMEDIA</b> <i>Powerpoint &amp; digital cameras</i></p> <ul style="list-style-type: none"> <li>• Explore how multimedia (photos, video &amp; sound) can create atmosphere and appeal to different audiences.</li> <li>• Be confident in creating and modifying text and presentation documents to achieve a specific purpose.</li> <li>• Use art programs and online tools to modify photos for a specific purpose using a range of effects.</li> <li>• Explore the use of video, animation, and green screening for a specific audience.</li> <li>• Use ICT tools to create music phrases for a specific purpose.</li> <li>• Use a keyboard effectively, including the use of keyboard shortcuts.</li> <li>• Use font sizes and effects such as bullet points appropriately.</li> <li>• Know how to use a spellcheck.</li> <li>• Look at their own, and a friend's work and provide feedback that is constructive and specific.</li> </ul>	<p><b>PROGRAMMING</b> <i>Scratch</i></p> <ul style="list-style-type: none"> <li>• Create and edit procedures typing logo commands including pen up, pen down and changing the trail of the turtle.</li> <li>• Use sensors to 'trigger' an action such as turning the lights on using Probot if it 'goes through a tunnel', or reversing if it touches something.</li> <li>• Solve open-ended problems with a floor robot, Logo and other software using efficient procedures to create shapes and letters.</li> <li>• Experience a variety of resources to extend understanding and knowledge of programming.</li> <li>• Create an algorithm and a program that will use a simple selection command for a game</li> <li>• Begin to correct errors (debug) as they program devices and actions on screen.</li> <li>• Use an algorithm to sequence more complex programming into order.</li> <li>• Link the use of algorithms to solve problems to work in Maths, Science and Design and Technology.</li> <li>• Identify bugs in programs.</li> </ul>		<p><b>DATA HANDLING</b> <i>MS Excel</i></p> <p>Graphs and dataloggers</p> <ul style="list-style-type: none"> <li>• Plan and create a database to answer questions.</li> <li>• Identify different types of data.</li> <li>• Ask questions carrying out simple searches on a database.</li> <li>• Identify inaccurate data.</li> <li>• Present data in appropriate format for an audience.</li> </ul>	<p><b>TECHNOLOGY IN OUR LIVES</b> <i>Searchbox.co.uk/kids</i></p> <ul style="list-style-type: none"> <li>• Talk about the school network and the different resources they can access, including the Internet.</li> <li>• Frame questions and identify key words to search for information on the Internet.</li> <li>• Consider reliability of information and ways it may influence you.</li> <li>• Check who the owner is before copying photos, clipart or text.</li> </ul>

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<b>Year 5</b>	<p><b>E-SAFETY</b> <i>CEOP Jigsaw video, Think-U-know &amp; Cybercafe</i></p> <ul style="list-style-type: none"> <li>• Agree sensible e-safety rules for the classroom.</li> <li>• Discuss their own personal use of the Internet and choices they make including excessive use, personal information and password security.</li> <li>• Discuss how to protect devices from virus threats.</li> <li>• Discuss the importance of keeping an adult informed about what you're doing online, and how to report concerns.</li> <li>• Explore using the safe and responsible use of online communication tools e.g. blogs, messaging.</li> </ul>	<p><b>MULTIMEDIA</b> <i>MS Word, MS Publisher, Textease Movies</i></p> <ul style="list-style-type: none"> <li>• Select an appropriate ICT or online tool to create and share ideas.</li> <li>• Explore the effects of multimedia (photos, video, sound) in a presentation or video and show how they can be modified.</li> <li>• Develop skills using transitions and hyperlinks to enhance the structure of presentations.</li> <li>• Use a wide range of effects in art programs and online tools, discussing the choices made and their effectiveness.</li> <li>• Know how to use text and video editing tools in programs to refine their work.</li> <li>• Use online tools to create and share presentations and films (eg design a webpage and include hyperlinks).</li> </ul>	<p><b>PROGRAMMING</b> <i>Leg, Crystal Rainforest &amp; Flowol</i></p> <ul style="list-style-type: none"> <li>• Explore procedures using repeat to achieve solutions to problems with Logo and a floor robot.</li> <li>• Talk about procedures as parts of a program.</li> <li>• Refine procedures to improve efficiency.</li> <li>• Use a variable to replace the length of side and the angle of a regular shape.</li> <li>• Explore instructions to control software or hardware with an input and using if... then... commands.</li> <li>• Explore a computer model to control a physical system.</li> <li>• Change inputs on a model to achieve different outputs.</li> <li>• Refine and extend a program.</li> <li>• Identify difficulties and articulate a solution for errors in a program.</li> <li>• Group commands as a procedure to achieve a specific outcome within a program.</li> <li>• Write down the steps required (an algorithm) to achieve the outcome that is wanted and refer to this when programming.</li> </ul>		<p><b>TECHNOLOGY IN OUR LIVES</b> <i>Faux Paw Videos</i></p> <ul style="list-style-type: none"> <li>• Identify different parts of computing devices.</li> <li>• Identify different parts of the Internet.</li> <li>• Choose appropriate tools for communication and collaboration and use them responsibly.</li> <li>• Use effective strategies to search with appropriate search engines.</li> <li>• Talk about the different elements on webpages.</li> <li>• Find out who the information presented on a webpage belongs to.</li> </ul>	<p><b>DATA HANDLING</b> <i>Microsoft Excel &amp; Textease Database – Create databases and graphs</i></p> <ul style="list-style-type: none"> <li>• Collect and record information using spreadsheets and databases.</li> <li>• Carry out complex searches (e.g. using and/or; <math>\leq</math> / <math>\geq</math>).</li> <li>• Solve problems and present answers using data tools.</li> <li>• Analyse information and question data.</li> <li>• Identify poor quality data.</li> <li>• Select appropriate use of a data logger for an investigation and interpret the findings.</li> </ul>

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<b>Year 6</b>	<p><b>E-SAFETY</b> <i>Tracey Beaker Come Alone Carmen</i></p> <ul style="list-style-type: none"> <li>• Agree sensible e-safety rules for the classroom.</li> <li>• Discuss their own personal use of the Internet and choices they make including excessive use, personal information and password security.</li> <li>• Discuss how to protect devices from virus threats.</li> <li>• Discuss the importance of keeping an adult informed about what you're doing online, and how to report concerns.</li> <li>• Explore using the safe and responsible use of online communication tools e.g. blogs, messaging.</li> </ul>	<p><b>PROGRAMMING</b> <i>Raspberry Pi &amp; Crystal Rainforest</i></p> <ul style="list-style-type: none"> <li>• Record in some detail the steps (the algorithm) that are required to achieve an outcome and refer to this when programming.</li> <li>• Predict the outputs for the steps in an algorithm.</li> <li>• Increase confidence in the process to plan, program, test and review a program.</li> <li>• Write a program which follows an algorithm to solve a problem for a floor robot or other model.</li> <li>• Write a program which follows an algorithm to achieve a planned outcome for appropriate programming software.</li> <li>• Control on screen mimics and physical devices using one or more input and predict the outputs.</li> <li>• Understand how sensors can be used to measure input in order to activate a procedure or sequence and talk about applications in society.</li> <li>• Create variables to provide a score or trigger an action in a game.</li> <li>• Link errors in a program to problems in the original algorithm.</li> </ul>		<p><b>DATA HANDLING</b> <i>MExcel &amp; Textease Database – spreadsheets &amp; databases</i></p> <ul style="list-style-type: none"> <li>• Use the whole data process – generate, process, interpret, store, and present information – realising the need for accuracy and checking plausibility.</li> <li>• Create formulas to find results or test hypothesis</li> <li>• Select appropriate data tool (eg spreadsheet to cost/budget a holiday)</li> <li>• Identify and present results.</li> <li>• Interrogate a database, refining searches to provide answers to questions.</li> <li>• Plan investigations using the outcomes from a data logger to show findings.</li> </ul>	<p><b>TECHNOLOGY IN OUR LIVES</b> <i>Digizen copyright resources</i></p> <ul style="list-style-type: none"> <li>• Describe different services provided by the Internet and how information moves around the Internet.</li> <li>• Describe different parts of a computing device and how it connects to the Internet. Connect a computing device to a keyboard, mouse or printer.</li> <li>• Identify appropriate forms of online communication for different audiences.</li> <li>• Use search engines as part of an effective research strategy.</li> <li>• Describe how search results are selected and ranked.</li> <li>• Acknowledge who resources belong to that have been found on the internet.</li> </ul>	<p><b>MULTIMEDIA</b> <i>Textease Movies &amp; Movie Maker or other programmes to edit still animation mixed with live action</i></p> <ul style="list-style-type: none"> <li>• Identify the purpose for selecting an appropriate online tool.</li> <li>• Discuss audience, atmosphere and structure of a presentation or video.</li> <li>• Collect information and media from a range of sources (considering copyright issues) into a presentation for a specific audience.</li> <li>• Use sound, images, text, transitions, hyperlinks and HTML code effectively in presentations.</li> <li>• Store presentations and videos online where they can be accessed by themselves and shared with others.</li> <li>• Evaluate the effectiveness of their own and others' work.</li> </ul>