



Computing

Key skills and knowledge by unit

Reception						
Autumn 1	<p>Set up continuous provision in your Classroom: Computing through continuous provision</p>	Autumn 2	<p>Computing systems and networks Using a computer (5 lessons) Learning about the main parts of a computer and how to use the keyboard and mouse. Learning how to log in and out.</p> <table border="1"> <tr> <td>Computer Science</td> <td>Information Technology</td> <td>Digital Literacy</td> </tr> </table>	Computer Science	Information Technology	Digital Literacy
Computer Science	Information Technology	Digital Literacy				
Spring 1	<p>Programming 1 All about instructions (5 lessons) The children learn to receive and give instructions and understand the importance of precise instructions.</p> <table border="1"> <tr> <td>Computer Science</td> </tr> </table>	Computer Science	Spring 2	<p>Computing systems and networks Exploring hardware (5 lessons) Tinkering and exploring with different computer hardware and learning to operate a camera.</p> <table border="1"> <tr> <td>Computer Science</td> <td>Digital Literacy</td> </tr> </table>	Computer Science	Digital Literacy
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Summer 1	<p>Programming 2 Programming Bee-Bots (5 lessons) Children learn about directions, experiment with programming a Bee-bot/Blue-bot and tinker with hardware.</p> <table border="1"> <tr> <td>Computer Science</td> </tr> </table>	Computer Science	Summer 2	<p>Data handling Introduction to data (5 lessons) Children sort and categorise data and are introduced to branching databases and pictograms.</p> <table border="1"> <tr> <td>Information Technology</td> </tr> </table>	Information Technology	
Computer Science						
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Online safety	<p>Online safety EYFS will take part in Safer Internet Day and share a range of stories linked to staying safe eg. Digiduck.</p>					

Year 1

<p>Autumn 1 *First lesson – online Safety</p>	<p>Computing systems and networks <u>Improving mouse skills</u> (5 lessons) Learning how to login and navigate around a computer; developing mouse skills; learning how to drag, drop, click and control a cursor to create works of art</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td style="background-color: #FFD700;">Computer Science</td> <td style="background-color: #00A0C0;">Information Technology</td> <td style="background-color: #C00040;">Digital Literacy</td> </tr> </table>	Computer Science	Information Technology	Digital Literacy	<p>Autumn 2 *First lesson – online Safety</p>	<p>Programming 1 <u>Algorithms unplugged</u> (5 lessons) Algorithms, decomposition and debugging are made relatable to familiar contexts, following directions, learning why instructions need to be specific.</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td style="background-color: #FFD700;">Computer Science</td> </tr> </table>	Computer Science	
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<p>Spring 1 *First lesson – online Safety</p>	<p>Skills showcase <u>Rocket to the moon</u> (5 lessons) Developing keyboard and mouse skills through designing, building and testing. Creating a digital list of materials, using drawing software and recording data.</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td style="background-color: #FFD700;">Computer Science</td> <td style="background-color: #00A0C0;">Information Technology</td> <td style="background-color: #C00040;">Digital Literacy</td> </tr> </table>	Computer Science	Information Technology	Digital Literacy	<p>Spring 2 *First lesson – online Safety</p>	<p>Programming 2 Programming Bee-Bots (5 lessons) <u>Bee-Bot</u> Introducing programming through the use of a Bee-Bot and exploring its functions.</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td style="background-color: #FFD700;">Computer Science</td> <td style="background-color: #00A0C0;">Information Technology</td> </tr> </table>	Computer Science	Information Technology
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<p>Summer 1 *First lesson – online Safety</p>	<p>Creating media <u>Digital imagery</u> (5 lessons) Taking and editing photos, searching for and adding images to a project.</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td style="background-color: #00A0C0;">Information Technology</td> <td style="background-color: #C00040;">Digital Literacy</td> </tr> </table>	Information Technology	Digital Literacy	<p>Summer 2 *First lesson – online Safety</p>	<p>Data handling <u>Introduction to data</u> (5 lessons) Learning what data is and the different ways it can be represented. Learning why data is useful and the ways it can be gathered and recorded.</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td style="background-color: #00A0C0;">Information Technology</td> </tr> </table>	Information Technology		
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<p>Online safety</p>	<p>*The first lesson of each half term will be an online safety lesson. School will also take part in Safer Internet Day (every February) and address any issues as they arise following advice from Safeguarding and computing leads.</p> <p><u>Online safety Y1</u> (5 lessons) Learning how to stay safe online and how to manage feelings and emotions when someone or something has upset us.</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td style="background-color: #00A0C0;">Information Technology</td> <td style="background-color: #C00040;">Digital Literacy</td> </tr> </table>	Information Technology	Digital Literacy					
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Year 2

<p>Autumn 1 *First lesson – online Safety</p>	<p>Computing systems and networks <u>What is a computer?</u> (5 lessons) Exploring what a computer is by identifying how inputs and outputs work and how computers are used in the wider world to design their own computerised invention.</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #FFD700; padding: 5px;">Computer Science</div> <div style="background-color: #008080; padding: 5px;">Information Technology</div> </div>	<p>Autumn 2 *First lesson – online Safety</p>	<p>Programming 1 <u>Algorithms and debugging</u> (5 lessons) Developing an understanding of; what algorithms are, how to program them and how they can be developed to be more efficient, introduction of loops.</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #FFD700; padding: 5px;">Computer Science</div> <div style="background-color: #008080; padding: 5px;">Information Technology</div> </div>
<p>Spring 1 *First lesson – online Safety</p>	<p>Computing systems and networks <u>Word processing</u> (5 lessons) Developing touch typing skills, learning keyboard shortcuts and simple editing tools.</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #FFD700; padding: 5px;">Computer Science</div> <div style="background-color: #008080; padding: 5px;">Information Technology</div> <div style="background-color: #DC143C; padding: 5px;">Digital Literacy</div> </div>	<p>Spring 2 *First lesson – online Safety</p>	<p>Programming 2 <u>ScratchJr</u> (5 lessons) Exploring what ‘blocks’ do’ by carrying out an informative cycle of predict > test > review. Programming a familiar story and make a musical instrument.</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #FFD700; padding: 5px;">Computer Science</div> <div style="background-color: #008080; padding: 5px;">Information Technology</div> </div>
<p>Summer 1 *First lesson – online Safety</p>	<p>Data handling <u>Stop Motion</u> (5 lessons) Learning how to create simple animations from storyboarding creative ideas.</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #FFD700; padding: 5px;">Computer Science</div> <div style="background-color: #008080; padding: 5px;">Information Technology</div> </div>	<p>Summer 2 *First lesson – online Safety</p>	<p>Creating media <u>International Space Station</u> (5 lessons) Learning how data is collected, used and displayed and the scientific learning of the conditions needed for plants and humans, to survive.</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #FFD700; padding: 5px;">Computer Science</div> <div style="background-color: #008080; padding: 5px;">Information Technology</div> </div>
<p>Online safety</p>	<p>*The first lesson of each half term will be an online safety lesson. School will also take part in Safer Internet Day (every February) and address any issues as they arise following advice from Safeguarding and computing leads.</p> <p><u>Online safety Y2</u> (4 lessons) Learning: how to keep information safe and private online; who we should ask before sharing things online and how to give, or deny permission online.</p> <div style="background-color: #DC143C; padding: 5px; text-align: center;">Digital Literacy</div>		

Year 3

<p>Autumn 1 *First lesson – online Safety</p>	<p>Computing systems and networks <u>Networks</u> (5 lessons) Learning what a network and how devices communicate and share information. Computer Science</p>	<p>Autumn 2 *First lesson – online Safety</p>	<p>Programming <u>Scratch</u> (5 lessons) Exploring the programme Scratch, following the predict > test > review cycle. Learning about ‘loops’ and programming an animation, story and game. Computer Science</p>
<p>Spring 1 *First lesson – online Safety</p>	<p>Computing systems and networks <u>Emailing</u> (5 lessons) <u>Microsoft Office 365</u> Sending emails with attachments and understanding what cyberbullying is. Information Technology Digital Literacy</p>	<p>Spring 2 *First lesson – online Safety</p>	<p>Computing systems and networks <u>Journey inside a computer</u> (5 lessons) Assuming the role of computer parts and creating paper versions of computers to consolidate understanding of how a computer works. Computer Science</p>
<p>Summer 1 *First lesson – online Safety</p>	<p>Creating media <u>Video trailers</u> (5 lessons) <u>Using iPads</u> Developing digital video skills to create trailers, with special effects and transitions. Computer Science Information Technology</p>	<p>Summer 2 *First lesson – online Safety</p>	<p>Data handling <u>Comparison cards databases</u> (5 lessons) <u>Microsoft Office 365</u> Learning about records, fields and data and sorting and filtering data. Computer Science Information Technology</p>
<p>Online safety</p>	<p>Online safety *The first lesson of each half term will be an online safety lesson. School will also take part in Safer Internet Day (every February) and address any issues as they arise following advice from Safeguarding and computing leads. <u>Online safety Y3</u> (5 lessons) Learning: the difference between fact, opinion and belief; and how to deal with upsetting online content. Knowing how to protect personal information online. Information Technology Digital Literacy</p>		

Year 4			
<p>Autumn 1 *First lesson – online Safety</p>	<p>Computing systems and networks Collaborative learning (5 lessons) <u>Microsoft Office</u> Learning how to work collaboratively and exploring a range of collaborative tools.</p> <p>Computer Science Information Technology Digital Literacy</p>	<p>Autumn 2 *First lesson – online Safety</p>	<p>Programming <u>Further coding with Scratch</u> (5 lessons) Revisiting the key features and beginning to use 'variables' in code scripts.</p> <p>Computer Science</p>
<p>Spring 1 *First lesson – online Safety</p>	<p>Computing systems and networks Website design (5 lessons) <u>Microsoft Office 365</u> Learning how web pages and sites are created and how to embed media and links.</p> <p>Information Technology</p>	<p>Spring 2 *First lesson – online Safety</p>	<p>Computing systems and networks <u>HTML</u> (5 lessons) Learning about the markup language behind a webpage; becoming familiar with HTML tags, changing HTML and CSS code to alter images and 'remix' a live website.</p> <p>Computer Science Information Technology Digital Literacy</p>
<p>Summer 1 *First lesson – online Safety</p>	<p>Creating media <u>Computational thinking</u> (5 lessons) Solving problems effectively using the four areas of abstraction, algorithm design, decomposition and pattern recognition.</p> <p>Computer Science</p>	<p>Summer 2 *First lesson – online Safety</p>	<p>Data handling <u>Investigating weather</u> (5 lessons) Researching and storing data on spreadsheets and designing a weather station.</p> <p>Computer Science Information Technology</p>
<p>Online safety</p>	<p>Online safety *The first lesson of each half term will be an online safety lesson. School will also take part in Safer Internet Day (every February) and address any issues as they arise following advice from safeguarding and computing leads. <u>Online safety Y4</u> (5 lessons) Searching for information and making a judgement about the probable accuracy; recognising adverts and pop-ups; understanding that technology can be distracting.</p> <p>Information Technology Digital Literacy</p>		

Year 5			
<p>Autumn 1 *First lesson – online Safety</p>	<p>Computing systems and networks <u>Search engines</u> (5 lessons) Learning about how page rank works and how to identify inaccurate information.</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #00a0c0; padding: 5px;">Information Technology</div> <div style="background-color: #e91e63; padding: 5px;">Digital Literacy</div> </div>	<p>Autumn 2 *First lesson – online Safety</p>	<p>Programming 1 Programming music (5 lessons) <u>Option 2: Scratch</u> Building-on programming and music skills to create different sounds, beats and melodies which are put to the test with a Battle of the Bands performance!</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #ffc107; padding: 5px;">Computer Science</div> <div style="background-color: #00a0c0; padding: 5px;">Information Technology</div> </div>
<p>Spring 1 *First lesson – online Safety</p>	<p>Data handling <u>Mars Rover 1</u> (5 lessons) Learning about the Mars Rover, exploring how and why it transfers data including instructions, and how messages can be sent using binary code.</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #ffc107; padding: 5px;">Computer Science</div> <div style="background-color: #00a0c0; padding: 5px;">Information Technology</div> </div>	<p>Spring 2 *First lesson – online Safety</p>	<p>Programming 2 <u>Micro:bit</u> (5 lessons) Creating algorithms and programs that are used in the real world. Using the ‘predict, test and evaluate’ cycle to create and debug programs with specific aims.</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #ffc107; padding: 5px;">Computer Science</div> <div style="background-color: #00a0c0; padding: 5px;">Information Technology</div> </div>
<p>Summer 1 *First lesson – online Safety</p>	<p>Creating media <u>Stop motion animation</u> (5 lessons) <u>Stop Motion Studio - Alternative – I can animate</u> Creating animations, storyboard ideas and decomposing a story into small parts before putting together to create the illusion of a moving image.</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #ffc107; padding: 5px;">Computer Science</div> <div style="background-color: #00a0c0; padding: 5px;">Information Technology</div> </div>	<p>Summer 2 *First lesson – online Safety</p>	<p>Skills showcase <u>Mars Rover 2</u> (5 lessons) Exploring how the Mars rover: moves, follows instructions, collects and sends data; understanding how computers work, what data is and how it is transferred.</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #ffc107; padding: 5px;">Computer Science</div> <div style="background-color: #00a0c0; padding: 5px;">Information Technology</div> <div style="background-color: #e91e63; padding: 5px;">Digital Literacy</div> </div>
<p>Online safety</p>	<p>Online safety *The first lesson of each half term will be an online safety lesson. School will also take part in Safer Internet Day (every February) and address any issues as they arise following advice from Safeguarding and computing leads. <u>Online safety Y5</u> (5 lessons) Learning about app permissions; the positive and negative aspects of online communication; that online information is not always factual; how to deal with online bullying and managing our health and wellbeing.</p>		

Year 6			
<p>Autumn 1 *First lesson – online Safety</p>	<p>Computing systems and networks <u>Bletchley Park</u> (5 lessons) Discovering the history of Bletchley and learning about code breaking and password hacking. Demonstrating digital literacy skills by creating presentations.</p> <p>Computer Science Information Technology Digital Literacy</p>	<p>Autumn 2 *First lesson – online Safety</p>	<p>Programming <u>Intro to Python</u> (5 lessons) Using the programming language 'Python' to create designs and art. Learning how to create loops and nested loops to make their code more efficient.</p> <p>Computer Science Information Technology</p>
<p>Spring 1 *First lesson – online Safety</p>	<p>Data handling <u>Big data 1</u> (5 lessons) Identifying how barcodes and QR codes work. Learning how infrared waves are used for the transmission of data while recognising the uses of RFID.</p> <p>Computer Science Information Technology</p>	<p>Spring 2 *First lesson – online Safety</p>	<p>Creating media <u>History of Computers</u> (5 lessons) Writing, recording and editing radio plays set during WWII, learning about how computers have evolved.</p> <p>Computer Science Information Technology</p>
<p>Summer 1 *First lesson – online Safety</p>	<p>Data handling <u>Big data 2</u> (5 lessons) Further developing understanding of how networks and the Internet are able to share information. Learning how big data can be used to design smart buildings.</p> <p>Computer Science Information Technology</p>	<p>Summer 2 *First lesson – online Safety</p>	<p>Skills showcase <u>Inventing a product</u> (6 lessons) Designing a product, pupils: evaluate, adapt and debug code to make it suitable for their needs and designing products in CAD and creating a website and video.</p> <p>Computer Science Information Technology Digital Literacy</p>
<p>Online safety</p>	<p>Online safety *The first lesson of each half term will be an online safety lesson. School will also take part in Safer Internet Day (every February) and address any issues as they arise following advice from Safeguarding and computing leads. <u>Online safety Y6</u> (6 lessons) Learning to deal with issues online; about the impact and consequences of sharing information online; how to develop a positive online reputation; Combating and dealing with online bullying and protective passwords.</p> <p>Digital Literacy</p>		