

# Subject: Computing

	EYFS	KS1	
	YR	Y1	Y2
<b>Curriculum Purpose of study:</b>	<p>Children develop and learn in different ways. Practitioners teach children by ensuring challenging, playful opportunities across the prime and specific areas of learning and development. They foster the characteristics of effective early learning:</p> <ul style="list-style-type: none"> <li>• Playing and exploring</li> <li>• Active learning</li> <li>• Creating and thinking critically</li> </ul>	<p>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.</p>	
<b>Curriculum Aims:</b>	<p>The ways in which the child engages with other people and their environment – playing and exploring, active learning, and creating and thinking critically – underpin learning and development across all areas and support the child to remain an effective and motivated learner. Specific areas include essential skills and knowledge for children to participate successfully in society.</p> <ul style="list-style-type: none"> <li>• Literacy</li> <li>• Mathematics</li> <li>• <b>Understanding the World</b></li> <li>• Expressive Arts and Design</li> </ul>	<ul style="list-style-type: none"> <li>♣ can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation</li> <li>♣ can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems</li> <li>♣ can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems</li> <li>♣ are responsible, competent, confident and creative users of information and communication technology.</li> </ul>	
<b>Curriculum Subject Content / Attainment:</b>	<p>Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children’s personal experiences increases their knowledge and sense of the world around them. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, <b>technologically</b> and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains.</p>	<p><b>Pupils should be taught to:</b></p> <ol style="list-style-type: none"> <li>1. understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>2. create and debug simple programs</li> <li>3. use logical reasoning to predict the behaviour of simple programs</li> <li>4. use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>5. recognise common uses of information technology beyond school</li> <li>6. 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> </ol>	

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<b>Autumn 1</b>	<p><b>Topic: Journeys – all about me</b></p> <p>Curriculum:</p> <ul style="list-style-type: none"> <li>Playing with technology e.g. phones/camera/ till in role play in and outside</li> <li>Skills:</li> <li>Pressing buttons, turning switches</li> </ul> <p>Key Questions:</p> <ul style="list-style-type: none"> <li>What technology can we find in school and at home?</li> </ul> <p>Onslow:</p> <ul style="list-style-type: none"> <li>What can they already do?</li> <li>2simple splash</li> <li>Share Tapestry posts from home</li> </ul>	<p><b>Topic: Great British Tour</b></p> <p>Curriculum:</p> <ul style="list-style-type: none"> <li>Statements 1,2,3,4,5,6 above</li> <li>Eafety (link to RSE curriculum): The wonders of the digital world.</li> <li>Reliable or not, what is worth trusting?</li> <li>algorithms</li> </ul> <p>Key Questions:</p> <ul style="list-style-type: none"> <li>How will the robot get to x?</li> <li>How will you record this?</li> </ul> <p>Onslow:</p> <ul style="list-style-type: none"> <li>Using ipads with greater independence in continuous provision to take photos.</li> <li>Using games and online content on large interactive board to practise skills across the curriculum.</li> <li>Bee Bots, Rover and Scratch simulations.</li> </ul>	<p><b>Topic: Into the dark (Florence Nightingale and Great fire of London)</b></p> <p>Curriculum:</p> <ul style="list-style-type: none"> <li>Statements 5, 6 above</li> </ul> <p>Key Questions:</p> <ul style="list-style-type: none"> <li>What does Eafety mean?</li> <li>How can you be a good friend online?</li> </ul> <p>Onslow:</p> <ul style="list-style-type: none"> <li>Email Florence nightingale and Edith Cavell</li> <li>Stranger Danger Safety module – we are the detectives</li> </ul>
<b>Autumn 2</b>	<p><b>Topic: Journeys - celebrations</b></p> <p>Curriculum:</p> <ul style="list-style-type: none"> <li>Eafety – usng the internet safely to search for information with adult support.</li> <li>Using torches light and dark</li> <li>Use iPads to take photos</li> </ul> <p>Key Questions:</p> <ul style="list-style-type: none"> <li>How can we find out more about...?</li> </ul> <p>Onslow:</p> <ul style="list-style-type: none"> <li>Following their interests</li> <li>IWB games</li> </ul>	<p><b>Topic: Terrific transport</b></p> <p>Curriculum:</p> <ul style="list-style-type: none"> <li>Statements 4, 5, 6 above</li> <li>Module 3: Keeping tight hold of information safety posters</li> </ul> <p>Key Questions:</p> <ul style="list-style-type: none"> <li>How can you stay safe online?</li> </ul> <p>Onslow:</p> <ul style="list-style-type: none"> <li>Using ipads with greater independence in continuous provision to take photos and save to Tapestry profile using own log ins.</li> <li>Continue using games and online content on large interactive board to practise skills across the curriculum.</li> <li>Continue using ipads and class computers to research facts linked to their interests in continuous provision.</li> </ul>	<p><b>Topic: Into the Dark (Guy Fawkes &amp; Owl who was afraid of the dark)</b></p> <p>Curriculum:</p> <ul style="list-style-type: none"> <li>Statements 1,2,3,5,6 above</li> </ul> <p>Key Questions:</p> <ul style="list-style-type: none"> <li>How can you debug this program?</li> </ul> <p>Onslow:</p> <ul style="list-style-type: none"> <li>Wow day immersive experience</li> <li>Making own map for Beebot robots</li> <li>Coding on ipads within purple mash <ul style="list-style-type: none"> <li>Can identify where to go for help and support when they have concerns about content or other online technologies</li> </ul> </li> </ul>

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<p><b>Spring 1</b></p>	<p><b>Topic: Once Upon a time</b></p> <p>Curriculum:</p> <ul style="list-style-type: none"> <li>• Basic skills programming simple robots forwards / backwards/ turn / go</li> <li>• Using technology to enhance story time experiences.</li> </ul> <p>Key Questions:</p> <ul style="list-style-type: none"> <li>• How do we keep ourselves safe online?</li> </ul> <p>Onslow:</p> <ul style="list-style-type: none"> <li>• Listening to different stories online and on CDs</li> <li>• Safer Internet Day</li> </ul>	<p><b>Topic: What a wonderful world: Wintry wonderlands</b></p> <p>Curriculum:</p> <ul style="list-style-type: none"> <li>• Statements 3,4,6 above             <ul style="list-style-type: none"> <li>• Searching safely</li> <li>• Know to be friendly online as well as in person.</li> </ul> </li> </ul> <p>Key Questions:</p> <ul style="list-style-type: none"> <li>• What do you want to find out?</li> <li>• Who can help?             <ul style="list-style-type: none"> <li>• How can I be safe online whilst using search engines?</li> </ul> </li> </ul> <p>Onslow:</p> <ul style="list-style-type: none"> <li>• Using ipads safely to research, take photos and save to online password protective platforms.</li> <li>• Using online platforms at home to upload homework.</li> <li>• Using microscopes to enhance science technology.</li> <li>• Using digital thermometers and scales to record weather data and weights and measures links to maths and science curriculum.</li> <li>• Nature videos and Guru FX in role play to excite and motivate.</li> <li>• Safer Internet Day</li> </ul>	<p><b>Topic: Explorers</b></p> <p>Curriculum:</p> <ul style="list-style-type: none"> <li>• Statements 2,3,4,5,6</li> </ul> <p>Key Questions:</p> <ul style="list-style-type: none"> <li>• What is the best way to present this data?</li> </ul> <p>Onslow:</p> <ul style="list-style-type: none"> <li>• Bar charts for statistics.</li> <li>• Google maps – longest river, tallest mountain, hottest place</li> <li>• create debug programs</li> <li>• Use technology beyond school safely .</li> <li>• Log in to secure web-based platform to access and record homework</li> <li>• Use simple graphs to record data.</li> <li>• Safer Internet Day             <ul style="list-style-type: none"> <li>• They should be aware of age restrictions on computer games.</li> <li>• Know that parental controls are there to keep them safe</li> </ul> </li> </ul>
<p><b>Spring 2</b></p>	<p><b>Topic: Once Upon a Time</b></p> <p>Curriculum:</p> <ul style="list-style-type: none"> <li>• Using Apps to read stories and interact</li> <li>• Using IPads for internet searches</li> </ul> <p>Key Questions:</p> <ul style="list-style-type: none"> <li>• How did you make that work?</li> </ul> <p>Onslow:</p> <ul style="list-style-type: none"> <li>• Using GURU FX to superimpose items into our classrooms.</li> </ul>	<p><b>Topic: What a wonderful world: Sizzling Equators</b></p> <p>Curriculum:</p> <ul style="list-style-type: none"> <li>• Statements 4,5,6             <ul style="list-style-type: none"> <li>• Understand that information on the internet can be seen by others.</li> </ul> </li> </ul> <p>Key Questions:</p> <ul style="list-style-type: none"> <li>• How can you use this technology creatively?</li> </ul> <p>Onslow:</p> <ul style="list-style-type: none"> <li>• Create films in continuous provision and record on ipads.</li> <li>• Continue to use skills taught in the Autumn term.</li> </ul>	<p><b>Topic: Explorers</b></p> <p>Curriculum:</p> <ul style="list-style-type: none"> <li>• Statements 4,5,6</li> </ul> <p>Key Questions:</p> <ul style="list-style-type: none"> <li>• What is makes a good photo of a local area? What is the use for digital art?</li> </ul> <p>Onslow:</p> <ul style="list-style-type: none"> <li>• Link to geography focus and local area (history)</li> <li>• Taking photos, edit photos of local area, retrieve.</li> <li>• Keep personal information provate.</li> </ul>

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		<ul style="list-style-type: none"> <li>Understand what to do if they see disturbing content online at home or at school. They should know to tell their teacher or parents.</li> </ul>	
<b>Summer 1</b>	<p><b>Topic: Our World</b></p> <p>Curriculum:</p> <ul style="list-style-type: none"> <li>Beebots – further programming for a purpose.</li> </ul> <p>Key Questions:</p> <ul style="list-style-type: none"> <li>What is the internet?</li> </ul> <p>Onslow:</p> <ul style="list-style-type: none"> <li>Developing independence</li> <li>Class iPads – Apps and taking photos</li> <li>Using the Kid Rex Search engine</li> </ul>	<p><b>Topic: Castles</b></p> <p>Curriculum:</p> <ul style="list-style-type: none"> <li>Statements 3,4,5,6</li> <li>Using technology safely outside school</li> </ul> <p>Key Questions:</p> <ul style="list-style-type: none"> <li>What challenges did you have with the technology? How did you overcome them?</li> </ul> <p>Onslow:</p> <ul style="list-style-type: none"> <li>Recording weather report videos on handheld devices.</li> <li>Watch recorded weather videos and give feedback to peers.</li> <li>Programme floor robots.</li> <li>Google maps</li> <li>Create save and manipulate/edit photos, add sound and background images</li> <li>Can identify where to go for help and support when they have concerns about content or other online technologies.</li> </ul>	<p><b>Topic: Tales from other cultures</b></p> <p>Curriculum:</p> <ul style="list-style-type: none"> <li>Statement 4</li> </ul> <p>Key Questions:</p> <ul style="list-style-type: none"> <li>How could you improve your music?</li> </ul> <p>Onslow:</p> <ul style="list-style-type: none"> <li>Class concert listening to their compositions</li> <li>Able to use programs to produce a finished product</li> <li>Beginning to understand that not all information online is reliable.</li> </ul>
<b>Summer 2</b>	<p><b>Topic: Our World</b></p> <p>Curriculum:</p> <ul style="list-style-type: none"> <li>Select and use technology for a purpose</li> </ul> <p>Key Questions:</p> <ul style="list-style-type: none"> <li>Do you know how to stay safe on the internet?</li> </ul> <p>Onslow:</p> <ul style="list-style-type: none"> <li>Typing name into the computer using a keyboard</li> </ul>	<p><b>Topic: Oh I do like to be beside the seaside</b></p> <p>Curriculum:</p> <ul style="list-style-type: none"> <li>Statements 1,2,3,4,5,6</li> </ul> <p>Key Questions:</p> <ul style="list-style-type: none"> <li>How do you use technology outside school?</li> <li>How do you stay safe using technology outside school and online games?</li> </ul> <p>Onslow:</p> <ul style="list-style-type: none"> <li>Publish photos for display.</li> <li>Taking good digital photographs and editing</li> <li>Edit features of digital photographs to create a piece of artwork.</li> <li>Using iPad confidently to record their own learning.</li> </ul>	<p><b>Topic: Tales from other cultures</b></p> <p>Curriculum:</p> <ul style="list-style-type: none"> <li>Statements 4,5 above</li> </ul> <p>Key Questions:</p> <ul style="list-style-type: none"> <li>How do you engage an audience with your presentation?</li> </ul> <p>Onslow:</p> <ul style="list-style-type: none"> <li>Creating a video presentation or Book Creator on an artist.</li> <li>Present Book Creator presentation to peer review.</li> <li>Know how to stay safe online.</li> </ul>

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<p>Additional e.g. clubs, wow weeks, visitors, whole school events etc.</p>	<p>Access to classroom interactive boards to play age appropriate games to enhance learning across the curriculum.</p> <p>Upload images and work onto Tapestry and Purple Mash at school and from home.</p> <p>Sound and effects used to enhance children's experiences and storytelling (e.g. ship sounds to create atmosphere for story retelling in Year 1)</p> <p>STEM week (cycle once every 3 years) visitors invited to show uses of technology beyond school and in the workplace.</p> <p>Using digital microscopes to enhance science learning.</p> <p>Using digital thermometers to enhance learning in maths and science.</p> <p>Develop the use of QR codes in classroom to enhance provision.</p>
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