

Long Term Plan: Computing

Key to Pathways:

Inspire	Explore	Nurture	Thrive	Specialist Provision	College
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COMPUTING	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Inspire Pathway	'Computing Unplugged' and Real World Programming: e.g. programming Bee-bots to follow commands, everyday algorithms like 'instructions for making a bru', remote-control tractor challenge and Computational Thinking puzzles such as cracking the PIN code to a safe containing cookies.					
Year 7	<p>Y7 e-me: Presentational Software Pupils create PowerPoint Presentations about their interests using text, images and audio media and get creative with slide transitions, animations and layouts (IT).</p>	<p>Introduction to Virtual Learning Environments (VLEs) – school and home mode Pupils access their 'Purple Mash' VLE accounts to create an online Profile, work from school and home via cloud computing and receive and send evaluations and marks via secure messaging. Online safety and etiquette is learned, applied and discussed (DL).</p>	<p>Safer Internet Season 1 – create and safely use an email 1. Computer Health and Safety 2. Personal Information / Profiles 3. On-line vs 'real' friends 4. Introduction to SMART rules and getting help. Pupils access and explore the Think-You-Know government-backed advice website – a portal for advice and SELF-HELP (DL). https://www.thinkuknow.co.uk/</p>	<p>Real World Programming Bee-Bots and Pro-bots - pupils write simple program sequences to instruct a robot to move forward, right, left and backwards. Constructor-Bots – pupils write program sequences with repeat commands to instruct a robot to draw a shape or pattern (CS).</p>	<p>Lego – WeDo Students build LEGO® models that attach to a USB Hub to control the models wirelessly using an iPad app. Peripheral mechanisms can be added: a Motor can be programmed to turn this way or that way; a Tilt Sensor to tilt up, down, left etc; and a Motion Sensor to detect objects within a range of 15 centimetres and change course.</p>	<p>E-jigsaws Create your own puzzle with your own image and even write a 'Game Over' sound effect using the multi-instrument keyboard. Puzzles are then shared and displayed using cloud computing and an e-display board (IT and DL). (Jig-saw content is linked to a School Performance theme).</p>
Year 8	<p>Real-world Programming 2 Pro-bots - pupils write more complex program sequences to instruct a robot to move forward, right, left and backwards. Constructor-Bots – pupils write program sequences with repeat commands to instruct a robot to draw a shape or pattern (CS).</p>	<p>Spreadsheets Pupils access 2Calculate to learn how spreadsheets can help us organise data and information matrix organisation and simple formulas. Basic statistical understanding is then gained through creating block graphs for comparisons (IT).</p>	<p>Safer Internet Season 2 1. Cyber Bullying and T.H.I.N.K rules 2. Netiquette Pupils access and explore the Think-You-Know government-backed advice website – a portal for advice and SELF-HELP (DL).</p>	<p>e-Book Create a multi-media book Pupils use digital features such as animation and sound effects to create a non-fiction book about 'computing beyond school' (IT).</p>	<p>Coding Level 1 Pupils program cartoon avatars using basic programming commands and algorithmic concepts such as sequence, repeat, run-program, test and 'de-bug' (CS).</p>	<p>Animation Creator – like watching cartoons? Why not make one? Transform your picture 'stills' into a short, moving animation film, then share it via an online blog. (DL + IT) (Animation content is linked to a School Performance theme).</p>

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<p>Year 9</p>	<p>BTEC lite Pupils experience a 'qualification-type' assignment to prepare them for the Year 9 Pathways options evening – i.e. would the BTEC course taught in KS4 be a Pathway they would want to choose? (DL)</p>	<p>Coding Level 3 Pupils develop their Level 1 programming skills to write more complex codes that include functions, procedures and conditionality: if-then-else statements. (CS)</p>	<p>Safer Internet Season 3 1. Digital Citizenship: bias, extremism and copyright laws 3. Reporting concerns (contact and content) CEOP, Childline and trusted adults. (DL)</p>	<p>Data_ information _representation 2 Investigate app Pupils learn how to use an online database to input data, generate information and present findings in visual ways that help understanding and pattern identification. (IT)</p>	<p>On-line Coding course Pupils create an code.org account and complete a visual computer programming course to receive a Certificate courtesy of Microsoft, Google and other digital giants.(CS)</p>	<p>Game Creation – Advanced Level Make a first-personal 3D adventure maze game, design your own mechanics and even create a 'god mode' avatar with infinite health! Share your creation via an e-display board, an online blog, a QR Code or a URL link embedded in a webpage (IT + DL). (Game content is linked to a School Performance theme).</p>
<p>Year 10 - BTEC Entry Level 3 Award and Level 1 Award and Certificate</p>	<p>Presentational Software Pupils learn to : 1) Input and combine text and other information within presentation slides 2) Use presentation software tools to structure, edit and format slides and 3) evaluate their presentations in relation to audience feedback</p>	<p>Word Processing Software Pupils learn to: 1) Enter, edit and combine text and other information accurately within word processing documents 2) Structure information within word processing documents 3) Use word processing software tools to format and present documents</p>	<p>Using a Keyboard Pupils learn to: 1) Use a keyboard to enter and edit alphanumeric information accurately 2) Use a keyboard to access and navigate software applications</p>			
<p>Year 11 - BTEC Entry Level 3 Award and Level 1 Award and Certificate</p>	<p>Design Software Pupils learn to : 1) Obtain, insert and combine information for designs 2) Use design software tools to create, manipulate and edit designs or images</p>	<p>Improving Productivity using IT Pupils learn to : 1) Plan the use of appropriate IT systems and software to meet requirements 2) Use IT systems and software efficiently to complete planned tasks 3) Review the selection and use of IT tools to make sure that tasks are successful</p>	<p>OPTIONAL UNIT Using email Pupils learn to : 1) Use email software tools and techniques to compose and send messages 2) Manage sending and receiving emails Effectively</p>			

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Explore Pathway	'Computing Unplugged' and Real World Programming: e.g. 'jam butty' algorithms, Lego therapy and picture programming, coding Bee-bots to follow commands, remote-control tractor challenge and Computational Thinking puzzles such as breaking the PIN code to a safe containing cookies.					
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 7	<p>e-me Presentation Pupils create <u>PowerPoint or (SwitchIt Maker Presentations)</u> about their interests – 'e-me' – using text, images and audio media and get creative with slide transitions and layouts. (IT)</p>	<p>Introduction to Virtual Learning Environments (VLEs) – school mode Pupils access their 'Purple Mash' VLE accounts to create an online Profile, work from school and home via cloud computing and receive and send evaluations and marks via secure messaging. Online safety and etiquette is learned, applied and discussed (DL) This Unit may take two terms through the Explore Pathway. And / or Tech Templates Pupils create artistic renderings of IT devices https://www.purplemash.com/site#tab/pm-home/art/paint_projects_technology</p>	<p>Safer Internet Season 1 1. Introduction to <u>Hector's World or Lost Princess</u> 2. Getting help Pupils access and explore the Think-You-Know government-backed advice website – a portal for advice and SELF-HELP. (DL) (BBC Lost Princess resource: http://www.bbc.co.uk/newsround/13908828</p>	<p>Real World Programming Botley Pupils engage with Botley, a screen-free Coding Robot with remote control for distance programming and light-sensor that allows Botley to track a black line created by the pupils.</p>	<p>Lego: Café+ Pupils use visual algorithms (instruction cards) to build food and drink items with blocks requiring them to sort, match, count and sequence, spot patterns and evaluate.</p>	<p>E-jigsaws Create your own jigsaw or tile puzzle from 10 templates with your own image and add sound effects (Puzzle content is linked to a School Performance theme). (IT)</p>
Year 8	<p>Creative Apps Pupils access numerous apps with specific tools and capacities to create seasonal digital content: 1. Star Stamper App – Exploding Firework images</p>	<p>Real World Programming Botley Level 2 Pupils engage with <u>Botley, a screen-free Coding Robot with remote control for distance programming and light-sensor that allows Botley to track a</u></p>	<p>Safer Internet Season 2 S.M.A.R.T rules Pupils explore the Think-You-Know government-backed advice website – a portal for advice and SELF-HELP. (DL).</p>	<p>e-Book Create a multi-media book Pupils use digital features such as animation and sound effects to create a non-fiction book about 'computing beyond school'. (IT)</p>	<p>3D modelling Render a digital design of an object, print it and make it. Pupils use a design app. to re-create in digital form a familiar object – such as a house, car or bus – and then print it ready to be made into a paper model. (IT)</p>	<p>Animation Creator Like watching animations? Why not make one? <u>Use an iPad to take stop-motion photos of your favourite plastic figure 'moving' in its own animation.</u> (IT)</p>

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	<p>2. Pattern Scaling App – Christmas or winter themed wrapping paper</p> <p>3. Mash Cam App – face photo inserted, positioned and scaled into character template</p> <p>4. Running Paint App - Dripping Blood Halloween picture (IT)</p> <p>OR</p> <p>Spreadsheets (please see Inspire Pathway)</p>	<p><u>black line created by the pupils.</u></p>				<p>Inspire Pathway app can be used to extend this project (all Animation content is linked to a School Performance theme).</p>
Year 9	<p>Card Creation</p> <p><u>Pupils use the 2Publish program to create a bi-fold, festive card with editable text, layout and image creation on a choice of paper. (DL)</u></p>	<p>Coding Level 1</p> <p><u>Pupils program cartoon avatars to move using basic programming commands (CS)</u></p>	<p>Safer Internet Season 3</p> <p>T.H.I.N.K rules</p> <p>Pupils explore the Think-You-Know government-backed advice website – a portal for advice and SELF-HELP. (DL).</p>	<p>3D modelling</p> <p>Pupils use a design app. to re-create, in digital form, a familiar object – such as a house, car or bus – and then print it ready to be made into a 3D paper model (IT).</p>	<p>Animation</p> <p>Tell a simple story through the 2Animate app using visual literacy, <u>animation tools and playback speed control (IT).</u></p>	<p>Computer Game Creation</p> <p><u>Intermediate Level: Create a 2D maze game with your own character, environment, rewards and ‘baddies’ (IT).</u></p> <p>(Game content is linked to a School Performance theme).</p>
Year 10	<p>AQA Unit Award Scheme</p> <p>Internet Safety (76229):</p> <ul style="list-style-type: none"> • online-safety rules • Getting help • Internet navigation tools 		<p>AQA Unit Award Scheme</p> <p>Presentational Software (70353):</p> <ul style="list-style-type: none"> • Text • Images • Formatting • Drawing tools 		<p>AQA Unit Award Scheme</p> <p>Digital Imaging 71640:</p> <ul style="list-style-type: none"> • Software package • Viewing options (zoom) • Crop / Edit • Saving protocols 	
Year 11	<p>AQA Unit Award Scheme</p> <p>Employability Skills (30374):</p> <ul style="list-style-type: none"> • Computer hardware • Computer software • User security • Error-correct procedures 		<p>AQA Unit Award Scheme</p> <p>Word Processing (105878):</p> <ul style="list-style-type: none"> • Text input, output and editing • Image manipulation • Page orientation • Save / Save as / file type 		<p>AQA Unit Award Scheme</p> <p>Optional Unit:</p> <p>Pupils access an AQA Unit that is of particular interest to the group or addresses current issues in IT.</p>	

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Nurture Pathway- Communication and Literacy			
	Autumn	Spring	Summer
KS3 and KS4	<p>Computing in the Nurture and Thrive Pathways is not generally taught as a separate, timetabled subject, but integrated and embedded in the 'Communication and Literacy' Curriculums. In many ways digital technology has a bigger presence in these two Pathways because pupils not only learn ABOUT and how to use Computing technology, but also utilise its incredible capacity to provide ACCESS to learning and communication. For example, pupils may use touch-screen picture sequencing programs to learn ABOUT cause-and-effect and that computers need human input to do things (they are not intelligent yet!). However, to ACCESS this learning activity, gaze-tracking software could be used to allow the pupil to control the program depending on where he/she is looking.</p> <p>If a pupil would benefit from studying Computing as a separate subject specialism, he/she can be included in the Explore Pathway AQA Unit Award Scheme program.</p> <p>If you require more specific information about how the Computing Program of Study is incorporated into the Nurture and Thrive Pathways, please contact Mr Adam Foster (foster.a@elmsbank.bury.sch.uk).</p>		
Thrive Pathway – Communication and Literacy			
	Autumn	Spring	Summer
KS3 and KS4	<p>Computing in the Nurture and Thrive Pathways is not generally taught as a separate, timetabled subject, but integrated and embedded in the 'Communication and Literacy' Curriculums. In many ways digital technology has a bigger presence in these two Pathways because pupils not only learn ABOUT and how to use Computing technology, but also utilise its incredible capacity to provide ACCESS to learning and communication. For example, pupils may use touch-screen picture sequencing programs to learn ABOUT cause-and-effect and that computers need human input to do things (they are not intelligent yet!). However, to ACCESS this learning activity, gaze-tracking software could be used to allow the pupil to control the program depending on where he/she is looking.</p> <p>If you require more specific information about how the Computing Program of Study is incorporated into the Nurture and Thrive Pathways, please contact Mr Adam Foster (foster.a@elmsbank.bury.sch.uk).</p>		
Specialist Provision Pathway – Communication and Literacy			
	Autumn	Spring	Summer
KS3 and KS4	<p>Specialist Provision has a bespoke curriculum which focuses on the development of pupils' communication and sensory needs. The curriculum is tailored to reflect the interests and ability of the group and the needs of individual pupils.</p> <p>Please refer to the SP Long Term Plan for a full overview of themes covered.</p> <p>KS3 – pupils follow the Explore or Thrive Pathway with a focus on key skills, to support the developmental needs of our pupils with ASD.</p> <p>KS4 - Computing is not generally taught as a separate, timetabled subject, but integrated and embedded in the 'Communication and Literacy' Curriculums. In many ways digital technology has a bigger presence in this Pathway because pupils not only learn ABOUT and how to use Computing technology, but also utilise its incredible capacity to provide ACCESS to learning and communication. For example, pupils may use touch-screen picture sequencing programs to learn ABOUT cause-and-effect and that computers need human input to do things (they are not intelligent yet!).</p> <p>If you require more specific information about how the Computing Program of Study is incorporated into the Nurture and Thrive Pathways, please contact Mr Adam Foster (foster.a@elmsbank.bury.sch.uk).</p>		

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