

Subject: ICT	Accreditation: OCR Entry Level Certificate in Computer Science	Blue Pathway
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		<u>Autumn 1</u>	<u>Autumn 2</u>	<u>Spring 1</u>	<u>Spring 2</u>	<u>Summer 1</u>	<u>Summer 2</u>
<u>KS4</u>	Cycle 1	Computer Systems Computer hardware <ul style="list-style-type: none"> • components of a computer • internal components of a computer and their function • peripherals and their function 	Computer Systems Computer software <ul style="list-style-type: none"> • Operating System • System Software • types of utility software in different contexts • types of application software in different contexts 	Computational Thinking, Algorithms and Programming - Programming techniques <ul style="list-style-type: none"> • variables • input, output and storage of data • sequence • selection • iteration • operators • comments 	Computational Thinking, Algorithms and Programming - Data Representation <ul style="list-style-type: none"> • units of computer memory • data structure and data compression • data in the form of binary digits • comments 	Computational Thinking, Algorithms and Programming Computational logic <ul style="list-style-type: none"> • Boolean logic • Boolean operators • arithmetic operations 	Computational Thinking, Algorithms and Programming Algorithms <ul style="list-style-type: none"> • computational thinking • binary/denary numbers • flow charts
	OCR	Entry Level Certificate in Computer Science (R354) CS1, CS2 Computer Systems		Entry Level Certificate in Computer Science (R354) CS3, CS4 Computer Systems			
	Cycle 2	Computer Systems Computer memory and storage <ul style="list-style-type: none"> • Primary Storage • Secondary Storage 	Computer Systems Moral, legal, and environmental concerns <ul style="list-style-type: none"> • moral issues • legal issues • environmental issues • open source and proprietary software • Computer Science legislation 	Programming Project - In this programming project, learners will be expected to plan, write, test and evaluate a simple coded program. Learners can use any suitable programming language which allows them to access all of the programming techniques as listed within the subject content. This may be: <ul style="list-style-type: none"> • Drag and drop, for example: • Scratch • Gamemaker • Greenfoot • BYOB • AppInventor • Textually derived, for example: • Python • Small Basic • Visual Basic/.NET • Java Script • Java • C# or other C family language • BASH • Delphi/Pascal/Lazarus 			

OCR	Entry Level Certificate in Computer Science (R354) CTAP3, CTAP4 Computational Thinking, Algorithms and Programming	Entry Level Certificate in Computer Science (R354) Programming Project	
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		<u>Autumn 1</u>	<u>Autumn 2</u>	<u>Spring 1</u>	<u>Spring 2</u>	<u>Summer 1</u>	<u>Summer 2</u>
<u>KS3</u>	Cycle 1	E-safety and core skills Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Individual programming lessons (having a go at new resources for their year group/age appropriate). 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	Digital Literacy and ICT 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	Computer science 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	Digital Literacy and ICT 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	Digital Literacy and ICT 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	Digital Literacy and ICT 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

		work and to detect and correct errors in algorithms and programs					
	Cycle 2						

Ideas

	Cycle 1	<p>Internet safety display, CEOP video resources, Create a 'how to be safe online' presentation using Videolicious App. Being safe using mobile phones and multimedia devices.</p> <p>2. Predicting what will happen – talking through an algorithm. Flashcards for algorithms 'getting up and going to school' algorithm. Algorithms created for favourite pop songs, 'Jam sandwich' - clear, concise and precise instruction 'algorithms – children given language to choose from. CEOP website. *Smart rules.</p>	<p>Using ICT and exploring it'. *Provide opportunities to explore (the internet). Research information on a theme (Carl Linnaeus in Science/topic links) Search for appropriate pictures – save, edit, format them. Word process a script of what you will say in the video Create professional videos to explain and inform on a topic.</p>	<p>Algorithms, Predicting what will happen – talking through an algorithm. Flashcards for algorithms, Algorithms created for favourite pop songs, 'Jam sandwich' - clear, concise and precise, instruction 'algorithms – children given language to choose from Debugging (fixing) problems.</p> <p>Create flowcharts for favourite pop songs (algorithms),</p>	<p>*Provide opportunities to explore (the internet). How to search for information, How the searched information is sorted, How to find a specific picture, What the numbers mean on a picture (picture resolution/size). Texts boxes, Clip art, Formatting, Changing text types; fonts and sizes.</p>	<p>Exploring the internet, refining searches. Coding programmes with increasing complexity (including 'if, when' statements)</p>	<p>Exploring the internet, refining searches. Coding programmes with increasing complexity (including 'if, when' statements).</p>
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		http://www.saferinternet.org.uk/ http://www.chatdanger.com/ *Beebots Fake accounts, false information. We want children to spot unacceptable behaviour; this cannot be done without exposing them to unacceptable behaviour. They need to develop a moral compass in real life as well as online life and identities. More advanced coding applications – link with flashcards, writing out the code explicitly.		Talk through each step, predicting the behaviour of code – what effect it will have. Algorithms for simple tasks, Programme another human to do ‘the time warp, make a sandwich’ write algorithms on flashcards, debug and manipulate where necessary.			
Subject: ICT			Accreditation: WJEC Entry Level Pathways – (EL1-3)		Green Pathway		

LONG TERM PLAN

Learning will be reinforced through cross curricular links in different lessons including life skills, Humanities, British Values, Careers and Literacy. Similarly ICT skills will be taught in other subjects and evidence for the completion of WJEC units will be collected and collated in other lessons such as humanities, numeracy, life skills and literacy. Planning and activities are guided by the 5Cs: Confidence, Challenge, Curiosity, Character, Creativity.

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<u>KS4</u>	Cycle 1	ICT - E Safety Learning how to use technology safely and responsibly. Understand the need to use social media responsibly and	ICT - Online World Understanding the possibilities that the Internet offers us. Learning how to use online resources for	Digital Media - Use WORD and Publisher to create their own digital media and consider the purpose / audience	Digital Media - They will create and design pictures and Photoshop images to publish posters /	Using Mobile IT Devices (iPads) Learners will set up and use a mobile or handheld device (iPad) securely to	Using Mobile IT Devices (iPads) Look at some of the apps available. Identify the different

		consider what we post online	research, communication and Independence		leaflets and write reports.	input and store data and to transfer data to and from another device.	applications on the mobile device and what they can be used for.
	WJEC	Unit 6404/E2 Online basics – Partial unit (to be completed in conjunction with other subjects) from WJEC and introduction to ICT and online safety		Unit 6395/E3 Desktop publishing software Partial unit (to be completed in conjunction with other subjects) from WJEC and introduction to ICT and online safety		Unit 6399/E3 Using Mobile IT Devices	
	Cycle 2	ICT - Online World They will explore online communities / networks / businesses. Benefits and issues with online communication Also Netiquette	Digital Media - Pupils will learn how to make their own animations and films and use filming equipment to record their media work	Digital Media - Pupils will edit / produce their digital artefacts using WORD and Publisher. They will link with careers and create a CV, Cover letter for job applications and portfolio of ICT skills.	ICT - E Safety using the Internet - Learn how to keep yourself safe online and basic netiquette. They will create a guide to using the Internet, posters regarding e safety and health and safety	Computing - Pupils will use SCRATCH to create games, debugging where required. They will add additional levels of complexity to their games to improve them	Computing - Pupils will create presentations about SCRATCH showing others how to use SCRATCH and demonstrating their games to others.
	WJEC	Unit 6404/E2 Online basics – Unit - 6406/E2 Imaging Software		Unit 6395/E3 Desktop publishing software – Unit 6391/E3 Using Word Processing Software		- Unit 6393/E3 Presentation Software	
		Cultural Capital: Pupils will link with other schools as a part of their work for Digital Media. They will share letters and films with other schools across the globe. Pupils will develop communication skills through online activities in lessons, sharing ideas and talking to students from our link schools.					
KS3	Cycle 1	ICT - E Safety Learning how to use technology safely and responsibly. Learn some basic rules of netiquette and Internet safety	ICT - Online World Understanding how we can use the Internet to find answers, stay in touch and be Independent	Digital Media - Learn how to use WORD / Publisher to create their own digital media and consider why they choose specific layouts / styles	Digital Media - They will use DTP to make posters and leaflets. They will use cameras to record short films to edit and share	Using Mobile IT Devices (iPads) Learners will set up and use a mobile or handheld device (iPad) securely to input and store data and to transfer data to and from another device.	Using Mobile IT Devices (iPads) Look at some of the apps available. Identify the different applications on the mobile device and what they can be used for.

	Cycle 2	ICT - E Safety Learning how to use technology safely and responsibly. Understand the need to use social media responsibly and consider what we post online	Digital Media - Pupils will learn how to make their own animations and films and use filming equipment to record their media work	Digital Media - Pupils will learn how to edit / produce their films and use editing software. They will show their work in class and review their peers work and offer constructive criticism	ICT - E Safety Using a range of online digital media, learning about what is available online and knowing whom to talk to when things go wrong	Computing - Pupils will use SCRATCH and SCRATCH Jr to create their own games and learn how to program on the laptops. They will learn how to identify bugs	Computing - Pupils will continue to work on SCRATCH, starting to create complex games They will also explore Bee Bot on the iPads (control systems)
		Cultural Capital: Pupils will link with other schools as a part of their work for Digital Media. They will share letters and films with other schools across the globe. Pupils will develop communication skills through online activities in lessons, sharing ideas and talking to students from our link schools.					
<u>KS2</u>	Cycle 1	ICT - E Safety Learning how to use technology safely and responsibly. Explore ICT technology and talk about health safety and online safety	ICT - Online World Exploring the Internet and using different sites / apps to learn about what the web offers us	Digital Media - They will explore iPads and laptops to create digital media independently—such as images / films etc	Digital Media - They will explore different apps on the iPads / laptops to create images / text based media and films	Using Mobile IT Devices (iPads) Learners will set up and use a mobile or handheld device (iPad) securely to input and store data and to transfer data to and from another device.	Using Mobile IT Devices (iPads) Look at some of the apps available. Identify the different applications on the mobile device and what they can be used
	Cycle 2	ICT - E Safety Learning how to use technology safely and responsibly. Learn who to talk to about Internet safety	Digital Media - Pupils will work together to make their own films Learn how to use film equipment to record themselves and each other	Digital Media - Pupils will work together to edit / produce their films. They will show their work to their peers and review them collectively	ICT - E Safety Experiencing a range of ICT equipment and discussing dangers online	Computing - Pupils will use SCRATCH Jr to create games and learn how to program on the iPads using simple commands of multiple steps. They will look for errors / bugs	Computing - Pupils will continue to explore SCRATCH Jr and start to create games They will also explore Bee Bot using the iPads learning how to control

		Cultural Capital: Pupils will link with other schools as a part of their work for Digital Media. They will share letters and films with other schools across the globe. Pupils will develop communication skills through online activities in lessons, sharing ideas and talking to students from our link schools.
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Intent:

The ICT curriculum will contribute to children's personal development in creativity, independence, judgement and self-reflection. This will be seen in them being able to talk confidently about their work, and sharing their work with others.

ICT is taught in discreet lessons as well as in other cross curricular linked subjects and this supports the importance and reinforcement of the keys skills of ICT.

Accreditation

Pupils on Green Pathway follow the WJEC entry Level course in Key stage 4. This enables them to achieve qualifications at Entry level 1-3, depending upon their ability. These are standalone qualifications but can also contribute towards a broader Entry Level Award or certificate (also at Entry Level 1-3) incorporating other subjects.

It is expected that students will complete the accredited courses during ICT lesson but also build up a portfolio of evidence for the WJEC award in cross curricular linked lessons. Literacy, Humanities and Life skills will also involve a strong component of ICT and support the completion of the WJEC awards for a number of different units.

Pupils on Blue Pathway follow the OCR Entry Level Certificate in Computer Science in Keys Stage 4/later stages of Key Stage 3. This can be used as a foundation which could enable learners to progress onto a GCSE (9–1) Computer Science or alternatively, a Vocational IT qualification.