



Woodlane High School

achieving success in a nurturing environment

Subject Policy: Computing

Updated: September 2023

Next Update: September 2024

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Rationale – What is the evidence base for selected strategies and curriculum choices?

This section is kept succinct to ensure this policy remains accessible to a variety of audiences. Please review our Teaching and Learning Policy for further information on our whole school approach and evidence informed practice. We have selected 3 subject specific areas of focus to highlight our evidence informed practice, as follows:

Digital Literacy:

Digital literacy is at the heart of the computing curriculum. *“Digital literacy is essentially the acquisition of the skills and abilities needed to read, write, and communicate in the 21st century using current and emerging technologies”* (Buckingham, 2015; Gilster, 1997; Museum and Library Services Act of 2010, 2010; Spencer, 1986; U.S. Department of Labor, 2016).

At Woodlane we aim to equip our pupils not only with functional skills such as searching online, operating a device and safely interacting with software but, also the digital agility to become familiar, flexible and confident users of digital tools and the ability to make decisions regarding the use of technology.

Teaching topics such as e-safety, IT User fundamentals and digital imaging allows our pupils to explore technology and their use both in the classroom as well as the wider world uses including post 16 education, work environments and social context. Teaching coding and creation of digital content pave the way for pupils to apply problem solving competencies learnt during computing lessons drawing on logic and creativity and apply these to real life problems. Our pupils leave Woodlane fluent in using online tools and technology enabling digital fluency both in education and personal life.

A study by Park and Buford (2013) examined tablet use and whether using tablets could improve digital media literacy. Their research showed an increase in skills with those who used the devices for information retrieval and for socialising experienced. iPads feature high in computing and cross curricular lessons. Through the use of Apps, accessibility features and their portability, enables teaching and learning to be truly learner centred. Pupils access teaching and learning resources equally regardless of their individual needs.

Blended Learning:

Woodlane's approach to education integrates technology seamlessly, employing platforms like Google Classroom, Microsoft Suite, and Adobe Creative Suite to create a blended learning environment. This blended learning setup empowers students to progress at their own speed, tailored to their individual learning outcomes, with the added benefit of remote access to educational materials from home.

“Although there is no denying the importance of the physical presence of the teacher and classroom materials, there is substantial research validating the learning gains achieved through virtual, online resources”. Weng, Maeda, & Bouck (2014).

In the computing classroom, pupils receive in-person instruction, fostering the introduction of new concepts and the solidification of their understanding. Woodlane pupils exhibit confidence in their digital literacy, enabling teachers to provide both face-to-face guidance and supplementary online resources to reinforce their grasp of computational concepts. These online tools also encourage pupils to employ creativity in their learning process, aiding in the construction and consolidation of knowledge learnt in the classroom.

In a recent study, titled: Analysis of Hybrid Learning for Students with Learning Disabilities, the authors commented, "...there are four important aspects conducted by teachers supporting the success of hybrid learning for students with learning disabilities in inclusive classes; namely (1) the use of clear instructions, (2) reducing anxiety in online spaces, (3) special assistance, and (4) the use of adaptive learning media. This study has implications for the importance of teachers applying these four aspects to implement hybrid learning" Rachmawati, N., Supena, A., Yufiarti, Y., Yarmi, G., & Casmana, A. R. (2022).

Taking into these considerations, computing lessons follow a clear lesson structure including teacher-led activities and demonstration and practical hands-on activities aimed at embedding the fundamental principles and concepts of computing, including abstraction, logic, algorithms and data representation.

Through training and teacher support, pupils are confident in the online environment helping to reduce anxiety and provide special assistance for those who need it. Furthermore, our digital and online resources are adapted to meet the needs of our pupils and their learning outcomes on an individual basis by making resources learner centred with dyslexia friendly resources and utilising accessibility tools.

Computational Thinking:

Sara Segar, an educational advisor and expert in Experiential Learning has produced a number of reports linked to pupils 'learning by doing'. She summarises that, "*Problem-solving is an important skill in itself, but being able to apply problem-solving skills to real-world issues and scenarios is critical*" (Sara Segar, 2020)

Computing at Woodlane involves experiential learning activities for pupils, this approach places the students in control of their own learning, encourages active engagement, and incorporates reflection into learning activities.

Pupils are tasked with problem-solving activities that are relevant to their real-life experiences. For instance, topics like cyber security, online communication, and game creation are chosen to provide pupils with learning opportunities centred around real-life challenges they encounter in their day-to-day lives.

A detailed and well cited research paper from 2016, titled: 'Computing in the curriculum: Challenges and strategies from a teacher's perspective' by Sue Sentence and Andrew Csizmadia highlights a number of key approaches that support the highest quality lessons on Computer Science and Computational Thinking. The report states that, "*Working with tangible real world objects is a central tenet of Papert's constructionism... constructivist principles support the strategies of using more kinaesthetic and active approaches to teaching in the computer science classroom. In Computing this is embodied in the 'unplugged' approach. The "unplugged" style of teaching refers to the use of activities to teach computer science concepts without the use of computers.*"

These forms of tasks are interwoven in to the Computing Curriculum Map to ensure teaching and learning is broad and balanced. A popular task in computing is pupils building their own programs using block based programming environments. Pupils build programs that solve real life problems through digital storytelling that convey important messages or narratives. For example, pupils create interactive stories about environmental conservation, cyberbullying or historical events.

Intent – What is Woodlane aiming to achieve through its Computing curriculum?

- To develop computational thinking and creativity in the use of new or unfamiliar technologies.
- To develop analytical skills in problem solving using computational terms.
- To engage in the practical experience of writing computer programs in order to solve problems.
- To understand and apply the fundamental principles and concepts of computing, including abstraction, logic, algorithms and data representation.
- To become responsible, competent, confident and creative users of information and communication technology.
- To become digitally literate with the ability to express and develop ideas through, information and communication technology.
- To become active participants in a digital world.
- To develop personal learning and thinking skills to enable pupils to enter further education / work and adult life as confident and capable individuals.
- To understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy.
- Be able to recognise inappropriate content, contact and conduct and know how to report concerns.
- To ensure all pupils leave Woodlane with a computing / IT related qualification which reflects the best of their ability.

Implementation – How is the Woodlane Computing curriculum delivered?

Curriculum Delivery

- Pupils have full access to the Computing National Curriculum which is differentiated to meet pupils' learning needs and styles.
- The Computing curriculum is designed to be challenging, appropriate to each pupil's stage of development.
- The Computing Curriculum offers opportunities for cross-curricula learning, to ensure pupils make significant personal development, including:
 - ✓ e-safety theme day;
 - ✓ creating computer games theme day;
 - ✓ BBC Young Reporter;
 - ✓ cross curriculum technology based projects;
 - ✓ SaLT strategies/Word Aware integrated in to teaching;
 - ✓ communication development through the use of a wide range of media products including online resources;

- ✓ exploring the world of work through business document creation and application;
 - ✓ leadership skills through iPad training for all pupils including specialist digital leaders per cohort;
 - ✓ pupil led training in the use of iPads for accessibility tools;
 - ✓ targeted iPad apps training;
 - ✓ creating and editing short films using iPads (iMovie);
 - ✓ creating music tracks using iPads (GarageBand);
 - ✓ learning to use a range of adobe creative cloud applications;
 - ✓ lunch time computing club;
 - ✓ computer hardware workshops;
 - ✓ life skills explored through a range of topics including home management, expressive arts, world of work, health & survival;
 - ✓ opportunities for cross curricular activities for example gardening, creating film props and arts & crafts workshops.
- The KS3 Computing curriculum is taught through 1.94 hours (average) contact time per week, (8% curriculum time).
 - The KS4 Computing curriculum is taught through 2.3 hours (average) contact time per week, (9% curriculum time).
 - In KS4, pupils who opt to study ASDAN are taught through 2.08 hours (average) contact time per week, (8% curriculum time).
 - The Computing curriculum is designed to build and expand on previous skills and subject knowledge, over a 5 year period. It also plans for opportunities for repetition to embed knowledge, increasing the chance of information recall and to integrate new knowledge into larger ideas (view our Computing curriculum map below).
 - We offer a wide range of qualifications in Computing, which are selected to appropriately challenge, based on each pupil's stage of development, including:
 - ✓ BTEC Award in Creative Media Production;
 - ✓ WJEC Pathway - Information Technology;
 - ✓ OCR Entry level Computing;
 - ✓ Personal Development Programmes (ASDAN).
 - It is important for pupils to become agile users of technology, we develop this through curriculum topics, use of adobe creative cloud applications, specific iPad training and the use of apps, video equipment and computer hardware workshops.
 - Train pupils in the safe / responsible use of technology and social media platforms.
 - We provide additional extra-curricular activities before school, after school and at lunch time, including:
 - ✓ qualification support sessions;
 - ✓ computer club;
 - ✓ coding club
 - ✓ opportunities for homework support;
 - ✓ one to one support.

Teaching and Learning

- Our pupils are taught by transition teachers in Year 7 and subject specialists from Year 8 to Year 11.
- Our Computing Subject Leader is well qualified, possessing a PGCE in ICT, a BSc honours in ICT in Education, is a qualified IT trainer and holds QTLS.
- The Computing curriculum is differentiated broadly into 3 levels of challenge, 'all', 'most' and 'some'. Further differentiation and personalisation is implemented when required.
- Computing homework is provided on a standardised format and is differentiated to provide the appropriate level of challenge, using 'all', 'most' and 'some'.
- In Computing we have a 3 tiered approach to supporting a pupil's learning, including:

Universal – this is the teaching your child will receive from the Computing subject teachers and will include adaptations to match learning needs. All classes:

- ✓ are supported by a teaching assistant (TA);
- ✓ have a maximum of 12 pupils per class to ensure there is a high level of support available from the teacher and TA;
- ✓ are multi-sensory;
- ✓ are dyslexia friendly;
- ✓ integrate speech, language and communication support;
- ✓ are supported either directly or indirectly by speech and language therapists;
- ✓ receive e-safety training, and
- ✓ iPad training on how to use apps safely to enhance and support their learning.

Targeted – it may be appropriate to consider making additional short term special educational provision to remove or reduce any obstacles to your child's learning. This takes the form of a graduated four part approach of a) **assessing** your child's needs, b) **planning** the most effective and appropriate intervention, c) **providing** this intervention and d) **reviewing** the impact on your child's progress towards individual learning outcomes.

Interventions may include:

- ✓ targeted support for individual pupils in the use of technology;
- ✓ one to one support from specialist computing TA;
- ✓ small group sessions in conjunction with a SpLD specialist;
- ✓ small group iPad training sessions;
- ✓ support session for coursework / homework
- ✓ promote leadership skills for pupils with a high aptitude for computing
- ✓ promote self-management to better cope with classroom environment
- ✓ promote personal learning and thinking skills to develop independence using technology
- ✓ targeted revision guides
- ✓ parent workshop on E-safety

- ✓ Parent workshop on Google Classroom

Specialist – it may be necessary to seek specialist advice and regular long-term support from a specialist professional in order to plan for the best possible learning outcomes for your child.

Assessment

- Pupils collate Pupil Achievement Books, where they showcase their best work and progress over time in Computing.
- Our bespoke Flight Path is used to track the progress of pupils in Computing and determine expected outcomes from different starting points.
- Computing teachers use a range of formative and summative assessment procedures to assess progress and attainment, including:
 - ✓ daily marking (click here for teaching and learning policy);
 - ✓ self/peer assessment;
 - ✓ completing practise exam questions;
 - ✓ targeted questioning;
 - ✓ setting homework to consolidate classwork;
 - ✓ pupil led curriculum specific quiz creation / implementation;
 - ✓ completing challenges on 'hour of code' (web resource);
 - ✓ practical tasks through workshops (building computers);
 - ✓ using iPads to evidence work;
 - ✓ informal/formal examinations;
 - ✓ B-Squared assessments;
 - ✓ Informal/formal coursework feedback.

Impact – *What difference is the Computing curriculum making on pupils?*

- The vast majority of pupils meet or exceed their expected progress in Computing.
- The vast majority of pupils meet or exceed their expected outcomes in Computing (external qualifications).
- The vast majority of pupils leave Woodlane with at least one formally recognised computing qualification. Many pupils join mainstream colleges/sixth forms at post-16 where they study a range of different qualifications and subjects following excellent progress from their starting points in Computing.
- Pupils are well-prepared for the next stage of their education.
- Analysis of Computing outcomes and pupil progress indicates that there is little statistical significance between key groups. Where any small differences are identified strategies are implemented swiftly.
- Computing curriculum is embedded into most subjects through the use of desktop computers in most classrooms and iPads
- Personal Development Programme (ASDAN) is delivered cross curricular and personalised for individual pupils. Pupils develop an understanding of the wider world around them and how they can make a positive impact.

- Woodlane pupils become IT literate, with transferable skills they take with them into further education and the world of work.
- Functional skills and life-skills are embedded in the Computing curriculum and are personalised for each pupil.
- Through the delivery of practical workshops pupils develop self-confidence and leadership skills which has a positive impact on pupil's self-esteem and self-awareness.

* Please see annual SEF/SIP for further details.

Appendix

Computing Curriculum Map – What will the pupils learn and when?

Year 7	Autumn A	Autumn B	Spring C	Spring D	Summer E and Summer F
Content	Introduction to Computing E-Safety	Hardware and Software	Introduction to programming and coding Visual coding tools and programming languages		BBC Micro:bit Robotics
Skills	All	<ul style="list-style-type: none"> -Can name at least 3 key Internet Safety tips -Can demonstrate one way to keep themselves safe when playing games/interacting with others online -Shows an awareness of cyber bullying -With support, can use their username and password to log on to the school network -Understands that their password is private -With support, can find their own documents and basic programmes -With support can access the school shared drives 	<ul style="list-style-type: none"> -Can point to and name various parts of a computer -Can interact with software using the keyboard and the mouse -Can explain what hardware is -Can explain what software is -Can use a mouse to select items on a screen -Can use right click on a mouse to cut and copy -Can select software located on the desktop -Can store/save items correctly on a computer -Shows an awareness of the different hardware and software in use around school 	<ul style="list-style-type: none"> -Can follow instructions step by step to achieve a set task away from the computer -Understands that computers need instructions -Understands that instructions must be in a language the computer understands and must be in the correct order -Can connect blocks together to give simple instructions to a robot -Can produce simple scripts in Scratch that make objects move around the screen -Can use basic functional coding that achieves a set goal using Hour of --Code activities, i.e. A robot turning on a light -Can use the internet to search for and select appropriate images -With support, can produce a simple program to meet some aspects of a design brief, i.e. Animate a page of your favourite images -Can use simple conditional statements to control objects -Can use basic loops to repeat common tasks in their programming many times over 	<ul style="list-style-type: none"> -Understands what the Micro:bit is -Can name 3 basic pieces of hardware included on the Micro:bit -Explains the importance of keeping the Micro:bit safe -Can use simple visual block coding to produce basic code -With support, can develop programmes for the Micro:bit with a functional purpose, including; Developing a Digital Dice, Creating a -Digital Thermometer and Making a Digital Compass -With support, can develop programmes for the Micro:bit with a fun purpose, including; Creating Handheld Games Console and Creating Personal Alarm Systems -With support can plug in a USB cable and transfer code from the computer to a Micro:bit -With support, helps to design a project which uses the Micro:bit for an everyday function -With support, describes the purpose of their project -Shows team working skills as part of a group, taking on one role successfully
	Most	<ul style="list-style-type: none"> -Can explain the importance of staying safe online -Can demonstrate multiple ways to stay safe online -With limited support/prompts can log on to school systems. -Can repeat stories fictional or real of young people who were not safe online -Can name one social network -Can explain the effects and consequences of cyber bullying 	<ul style="list-style-type: none"> -Knows that some hardware is connected by wires -Knows that some items are connected wirelessly -Can describe the difference between hardware and software -Can select the appropriate software or hardware for a particular task -Can use keyboard functions to perform different tasks 	<ul style="list-style-type: none"> -Can use their own ideas to design and animate basic sprites Shows an awareness of how to debug their own code before asking for support -Writes a program that meets most aspects of a design brief they are given, i.e. Animate your favourite images using sound, movement and colour -Can test their code/game for basic errors -Can answer questions about their of code and their impact on the game -Can represent computer coding as a written algorithm -Can design code for use with specific tasks within a game, i.e. to make a chicken move around the screen 	<ul style="list-style-type: none"> -Can use a mixture of simple visual block coding and Python to produce basic code for the Micro:Bit -Can describe different uses for robots in our everyday life -With support, designs a project that uses a Micro:bit for an everyday function -Shows some team work and leadership skills as part of a group -Describes the purpose of their project and the materials/ support needed to achieve it -Is able to take on different roles, including; coder, designer and hardware engineer
	Some	<ul style="list-style-type: none"> -Can demonstrate a deeper understanding of the consequences of internet safety 	<ul style="list-style-type: none"> -Can successfully unplug/plug in various elements of computer hardware 	<ul style="list-style-type: none"> -Uses loops effectively to complete multiple repetitive tasks within their coding -Uses conditional coding, including IF/When statements to create actions within their programme -Can use algorithms to represent various everyday tasks, 	<ul style="list-style-type: none"> -Can successfully use Python to produce more advanced code for the Micro:Bit -Describes the positive and negative impact robots have on our daily lives

		<ul style="list-style-type: none"> -Able to make links between social media/networking and the risks it poses. -Independently accesses all school data 	<ul style="list-style-type: none"> -Can describe using key words different parts of a computer and their function -Can describe whether hardware is input/output/both -Can describe how storage works 	<ul style="list-style-type: none"> -Can troubleshoot/debug their own code independently -Writes a programme that meets all aspects of a design brief -Tests and evaluates the effectiveness of the code written -Can explain the similarities between visual block coding and the language this represents; i.e. Hour of Code and JavaScript 	<ul style="list-style-type: none"> -Can troubleshoot/debug their own code independently and offers support for others -Leads on the design and creation of a project that uses the Micro:bit for an everyday task, showing leadership skills -Describes the purpose of their project and evaluates its effectiveness
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Year 8	Autumn A	Autumn B	Spring C	Spring D	Summer E	Summer F	
Content	Basic edits / Digital imaging	Using Photoshop	BBC School Report	BBC School Report	Learning text-based programming language (JavaScript)	Creating web pages using HTML coding	
Skills	All	<ul style="list-style-type: none"> -What is a digital image? -Know the difference between Bitmap & Vector -What is Pixel Depth? -Understand the effects of resolution on an image -Use paint to edit an image 	<ul style="list-style-type: none"> -Understand Pixel Depth -Know how to combine layers and remove backgrounds to create new images -Know how to combine the dodge and burn tools along with spot removal in Photoshop -Use online images -Create an image in Photoshop 	<ul style="list-style-type: none"> -identify purpose and audience in a given source -identify the difference between open and closed questioning -differentiate between fact and opinion -Plan for equipment needed -Use video hardware and software to capture sequences 	<ul style="list-style-type: none"> -Examine the typical structure of a news report -Identify features of writing reports for TV, radio and online platforms -Identify video editing software to use for file format -Edit sequences -Arrange audio 	<ul style="list-style-type: none"> -Know what text-based programming language is -Know how to open the script editor -Write, save and run a program in script mode -Drawing simple shapes -Use a function -Use a string 	<ul style="list-style-type: none"> -State what they are going to do -Carry out some of the planned work using the specified software application. -Use a limited range of software features to carry out the work. -Produce a partial outcome to the task. -Make a basic comment on the outcome of the task.
	Most	<ul style="list-style-type: none"> -Understand how a digital image is made up -Understand how a computer displays coloured images using binary and RGB values -Know what is the pixel depth of "Truecolour" -Merge images together using paint 	<ul style="list-style-type: none"> --Effectively combine layers and remove backgrounds to create new images -Effectively combine the dodge and burn tools along with spot removal in Photoshop -Know how to responsibly use online pictures -Able to merge online pictures together using the clone tool in Photoshop 	<ul style="list-style-type: none"> -Use the skills of analysis, comparison and evaluation for a given source -Evaluate the effect of different questioning techniques -Analyse the effect of language -Identify input devices and associated software to use -Store and retrieve sequences 	<ul style="list-style-type: none"> -Analyse the typical structure of a news report -Plan and produce storyboards and reports for different news platforms -Edit sequences to meet needs -Ensure audio meets needs -Identify appropriate playback software to use for news story -Identify the display device to use for the sequence -Identify copyright constraints on using other's information 	<ul style="list-style-type: none"> -Writing instructions on how to create edit and save a line of code -add variables -add arrays -use IF statements -use operators -use loops -use object expressions 	<ul style="list-style-type: none"> -State what they have to do -Produce a simple plan of action -Carry out the planned work using the specified software application -Use a range of software features to carry out the work. -Produce a relevant and partially completed outcome to the task. -Record some evidence of progression stages. -Make some comments on the outcome of the task. -Suggest improvements
	Some	<ul style="list-style-type: none"> -Explain how a computer displays coloured images using binary and RGB values -Explain the process, in your own words, of how a computer takes an image and displays it on the screen 	<ul style="list-style-type: none"> -Know how to put together a questionnaire to collect suitable feedback for a portfolio of images -Understand how to effectively collate a selection of images into a suitable portfolio -Know how to combine own ideas with peer feedback to produce a detailed evaluation 	<ul style="list-style-type: none"> -Evaluate the TAP of a source (Text, Audience, Purpose) -Promote effective interviewing techniques in your own work -Judge between implicit and explicit meaning -Use input devices and built in video software to record information that meets needs -Use audio input devices and software to record audio that meets needs -Identify file format used by the input devices 	<ul style="list-style-type: none"> -Write for different purposes while adapting and editing language to suit the given audience -Analyse and evaluate own and peers work -Select and use appropriate combination of software and display device to playback news stories -Adjust playback and display settings so that sequences are presented to meet needs -Combine information from different forms or sources in line with any copyright constraints 	<ul style="list-style-type: none"> -Write algorithms in pseudocode -Explain what Python is used for -Explain the importance of using correct data types: string, integer or float -Learn techniques for debugging programs -Describe the difference between syntax errors, run-time errors and logic errors 	<ul style="list-style-type: none"> -State with a reason for what they have to do. -Produce a detailed plan of action -List the resources that are to be used. -Carry out the planned work using an appropriate software application and resources. -Use logical methods/techniques to carry out planned work using a range of appropriate software features. -Produce a relevant and completed outcome of the task. -Record detailed evidence of progression stages.

Year 9	Autumn A	Autumn B	Spring C	Spring D	Summer E	Summer F	
Content	Programming Project (Design)	Programming Project (Implementation)	Testing and Evaluation	Hardware	Software	Logic	
Skills	All	<ul style="list-style-type: none"> -Identify what their program will do -sequence objectives of the game in some logical order -create a flow chart using basic shapes 	<ul style="list-style-type: none"> -Output to screen -Store data in variables -Select using IF -Use iteration -Use an arithmetic operator -Use comments -Attempt to make the program specified in the task 	<ul style="list-style-type: none"> -Run their program -Comment on whether their program works -Comment on what they would do differently next time 	<ul style="list-style-type: none"> -Know the difference between hardware and software -Identify different peripherals of a computer system e.g. input, output and storage devices -Identify common internal components of a computer -Know the difference between RAM and ROM and what ROM is used for 	<ul style="list-style-type: none"> -What is an operating system -What are the functions of an operating System -Know the difference between application software and system software -Identify the different security and system maintenance software 	<ul style="list-style-type: none"> -Convert binary numbers to denary -Convert denary numbers to binary -State the output of different logic gates AND, OR and NOT -Sequence instructions into a logical order
	Most	<ul style="list-style-type: none"> -Outline how their program will work -sequence objectives of the game in a logical order -create a flow chart using basic shapes and arrows 	<ul style="list-style-type: none"> -Output to screen -Store data in variables -Select using IF -Use iteration -Use an arithmetic operator -Use comments -Make a program that has some of the functionality described in the task. 	<ul style="list-style-type: none"> -Test their program entering different values. -Comment on whether their program works -Describe how they overcame a problem in making it -Describe any bugs that exist in the program -Describe any future improvements that could be made 	<ul style="list-style-type: none"> -Understand the functions of common peripherals -Understand internal components of a computer and their function -Suggest appropriate input and output devices for a given scenario -Understand the difference between main memory and permanent storage devices 	<ul style="list-style-type: none"> -State why an operating system is needed, including its functions. -State the purpose of different application software -State the purpose of different system utilities -State the purpose of different security and system maintenance software 	<ul style="list-style-type: none"> -Convert between binary and denary numbers from 0 to 15 -Understand the difference between information and data -Know the functions of logic gates -Know sequencing of instructions
	Some	<ul style="list-style-type: none"> -Detailed plan of how their program will work -sequence objectives of the game in logical order including error messages -create a flow chart and include bug fixes 	<ul style="list-style-type: none"> -Independently and accurately demonstrate a range of the Techniques -Output to screen -Store data in variables -Select using IF -Use iteration -Use an arithmetic operator -Use comments -Make a working program which includes all functionality as described in the task 	<ul style="list-style-type: none"> -Test their program entering several different values and use information from this to comment on how well their program works. -Describe how they overcame a problem in making it -Describe any bugs that exist in the program -Describe any future improvements that could be made 	<ul style="list-style-type: none"> -Able to draw a block diagram of the main components of a computer system: input, processor, output and storage -Explain what main memory is used for -Understand what happens at the "Process" stage 	<ul style="list-style-type: none"> -Describe the differences between application software and system software in different context -Describe what utility software are used for in different context -Describe the purpose of different security and system maintenance software in different context 	<ul style="list-style-type: none"> -Convert between large binary and denary numbers fluently -Describe the functions of logic gates -Describe sequencing of instructions

WJEC IT Year 10		Autumn A	Autumn B	Spring C	Spring D	Summer E	Summer F
Content		WJEC PATHWAYS - ENTRY QUALIFICATIONS IT - Improving productivity using IT		WJEC PATHWAYS - ENTRY QUALIFICATIONS IT – IT User Fundamentals		WJEC PATHWAYS - ENTRY QUALIFICATIONS IT - Using Word Processing Software	
Skills	All	<ul style="list-style-type: none"> -identify the advantages of using IT for the task -plan how to complete the task using appropriate IT systems and software -identify any safety and security issues affecting the use of IT for the task -use an IT system to complete planned tasks following identified safe practices -check that the outcome meets requirements -identify ways to improve the use of IT for the task 		<ul style="list-style-type: none"> -use correct procedures to start and shutdown an IT system -use IT interface features effectively to meet needs -work with files so that it is easy to find and retrieve information -identify types of storage media that can be used to store Information -use IT safely and securely -understand the need to keep information secure -keep information secure -identify why it is important to control access to hardware, software and data -respond to IT problems -identify where to get help to solve IT problems 		<ul style="list-style-type: none"> -identify what types of information are needed in documents. -use keyboard or other input method to enter or insert text and other information. -combine information of different types or from different sources in a document. -enter information into existing tables and templates. -use editing tools to amend document content. -store and retrieve document files -create and modify tables to organise information. -use appropriate techniques to format characters and paragraphs -use appropriate page layout to present and print documents. -check documents meet needs making corrections as necessary. 	
	Most	<ul style="list-style-type: none"> -identify the purpose for using IT -plan how to carry out the task using IT -select appropriate IT systems and software applications -identify the main legal and other constraints affecting the use of the IT system and software -use preset routines to improve productivity -use IT to complete planned tasks -review the outcomes of the completed task -identify the strengths of the IT systems and software used for the task -identify ways to improve the outcomes of the completed task 		<ul style="list-style-type: none"> -use correct procedures to start and shutdown an IT system -use IT systems and interface features effectively to meet needs -use appropriate terminology when describing IT systems -work with files and folders so that it is easy to find and retrieve Information -identify types of storage media that can be used to store information -follow guidelines and procedures for the safe and secure use of IT -understand the need to keep information secure -keep information secure and manage access to information sources securely -identify why it is important to control access to hardware, software and data -respond to IT problems and take appropriate action -identify where to get expert advice and help to solve problems 		<ul style="list-style-type: none"> -identify what types of information are needed in documents. -use keyboard or other input method to enter or insert text and other information. -combine information of different types or from different sources in a document. -enter information into existing tables, forms and templates. -use editing tools to amend document content. -store and retrieve document files effectively, in line with local guidelines. -identify what formatting to use to enhance presentation of the document. -create and modify tables to organise tabular or numeric information. -use appropriate techniques to format characters and paragraphs -use appropriate page layout to present and print documents. -check documents meet needs, using IT tools making corrections as necessary. 	
	Some	<ul style="list-style-type: none"> -identify the purpose for using IT -identify the methods, skills and resources required to complete the task successfully. -plan how to carry out the task using IT to achieve the required purpose and outcome. -identify reasons for choosing particular IT systems and software applications for the task. -select IT systems and software applications as appropriate for the purpose. 		<ul style="list-style-type: none"> -use correct procedures to start and shutdown an IT system. -use interface features effectively to interact with IT systems. -adjust system settings to meet individual needs. -use a communication service to access the Internet. -use appropriate terminology when describing IT systems. -work with files and folders so that it is easy to find and retrieve information. -identify what storage media to use. -organise and store information, using general and local conventions where appropriate. 		<ul style="list-style-type: none"> -identify what types of information are needed in documents. -identify what templates are available and when to use them. -use keyboard or other input method to enter or insert text and other information. -combine information of different types or from different sources into a document. -enter information into existing tables, forms and templates. -use editing tools to amend document content. -store and retrieve document files effectively, in line with local guidelines and conventions where available. 	

	<ul style="list-style-type: none"> -identify any legal or local guidelines or constraints that may affect the task or activity. -identify automated routines to improve productivity. -use automated routines that aid efficient processing or presentation. -complete planned tasks using IT. -review outcomes to make sure they meet the requirements of the task and are fit for purpose. -decide whether the IT tools selected were appropriate for the task and purpose. -identify the strengths and weaknesses of the completed task. -identify ways to make further improvements to work. 	<ul style="list-style-type: none"> -work safely and take steps to minimise physical stress. -recognise the danger of computer viruses, and how to minimise risk. -keep information secure. -outline why it is important to stay safe and to respect others when using ICT-based communication. -follow relevant guidelines and procedures for the safe and secure use of IT. -identify why routine maintenance of hardware is important and when to carry it out. -identify where to get expert advice. -carry out regular routine maintenance of IT systems safely. -take appropriate action to handle routine IT problems. 	<ul style="list-style-type: none"> -create and modify tables to organise tabular or numeric information. -select and apply heading styles to text. -identify what formatting to use to enhance presentation of the document. -select and use appropriate techniques to format characters and paragraphs. -select and use appropriate page layout to present and print documents. -check documents meet needs, using IT tools and making corrections as necessary.
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WJEC IT Year 11		Autumn A	Autumn B	Spring C	Spring D	Summer E	Summer F
Content		WJEC PATHWAYS - ENTRY QUALIFICATIONS IT - Presentation Software		WJEC PATHWAYS - ENTRY QUALIFICATIONS IT - Online basics / Using Email		WJEC PATHWAYS - ENTRY QUALIFICATIONS IT - Imaging Software	
Skills	All	<p>1 Enter information into the presentation slides so that it is ready for editing and formatting</p> <p>AC1.2 Identify any copyright constraints</p> <p>AC1.3 Store and retrieve presentation files</p> <p>Use software tools to edit slides</p> <p>AC2.2 Apply formatting to slides</p> <p>Prepare and present slides for presentation</p> <p>AC3.2 Check presentation using IT tools making corrections</p>		<p>-start an online IT system or application and close it down when finished.</p> <p>-work safely and responsibly online.</p> <p>-use browser software to find required information.</p> <p>-select and use information for a purpose. Attach files to email messages.</p> <p>-use software tools to compose and format email messages.</p> <p>-attach files to email messages.</p> <p>-send e-mail messages.</p> <p>-read and respond to email messages.</p> <p>-respond appropriately to common email problems.</p>		<p>-identify what images are needed for a task.</p> <p>-obtain, input and prepare images to meet needs.</p> <p>-identify generic copyright constraints.</p> <p>-combine information of different types or from different sources for images appropriate to a task.</p> <p>-store and retrieve files</p> <p>-use suitable tools to create images.</p> <p>-use appropriate tools to manipulate and edit images.</p> <p>-check images meet needs, using IT tools making corrections.</p>	
	Most	<p>-identify what types of information to use in the presentation</p> <p>-enter information into the presentation slides so that it is ready for editing and formatting</p> <p>-combine information for presentations in line with any copyright constraints</p> <p>-identify copyright constraints on using other's information</p> <p>-store and retrieve presentation files effectively, in line with local guidelines</p> <p>-select a template and theme for slides</p> <p>-use appropriate techniques to edit slides</p> <p>-apply format techniques to slides</p> <p>-identify how the slides should be presented</p> <p>-prepare and present slides for presentation</p> <p>-check presentation using IT tools making corrections as appropriate</p>		<p>-use software tools to compose and format email messages.</p> <p>-attach files to email messages.</p> <p>-send email messages.</p> <p>-identify how to stay safe and respect others when using email.</p> <p>-use an address book to store and retrieve contact information.</p> <p>-follow guidelines and procedures for using email.</p> <p>-read and respond to e-mail messages appropriately.</p> <p>-identify what messages to delete and when to do so.</p> <p>-organise and store email messages.</p> <p>-respond appropriately to common email problems.</p>		<p>-identify what images are needed.</p> <p>-obtain, input and prepare images to meet needs.</p> <p>-identify what generic copyright and other constraints apply to the use of images.</p> <p>-combine information of different types or from different sources for images.</p> <p>-identify which file format to use for saving and exchanging images.</p> <p>-store and retrieve files effectively</p> <p>-use suitable tools and techniques to create images.</p> <p>-use appropriate tools and techniques to manipulate and edit images.</p> <p>-check images meet needs, using IT tools and making corrections as necessary.</p>	
	Some	<p>-identify what types of information are required for the presentation.</p> <p>-select and use different slide layouts as appropriate for different types of information.</p> <p>-enter information into presentation slides so that it is ready for editing and formatting.</p> <p>-identify any constraints which may affect the presentation.</p> <p>-combine information of different forms or from different sources for presentations.</p> <p>-store and retrieve presentation files effectively, in line with local guidelines and conventions where available.</p> <p>-identify what slide structure to use.</p> <p>-select and use an appropriate template to structure slides.</p> <p>-select and use appropriate techniques to edit slides.</p> <p>-select and use appropriate techniques to format slides.</p> <p>-identify how to present slides to meet needs and communicate</p>		<p>-use software tools to compose and format e-mail messages.</p> <p>-attach files to e-mail messages.</p> <p>-send e-mail messages.</p> <p>-identify how to stay safe and respect others when using email.</p> <p>-use an address book to store and retrieve contact information</p> <p>-follow guidelines and procedures for using e-mail.</p> <p>-identify when and how to respond to e-mail messages.</p> <p>-read and respond to e-mail messages appropriately.</p> <p>-identify what messages to delete and when to do so.</p> <p>-organise and store e-mail messages.</p> <p>-respond appropriately to common e-mail problems</p>		<p>-identify what images are needed.</p> <p>-obtain, input and prepare images to meet needs.</p> <p>-identify what generic copyright and other constraints apply to the use of images.</p> <p>-combine information of different types or from different sources for images.</p> <p>-identify the context in which the images will be used.</p> <p>-identify which file format to use for saving and exchanging images.</p> <p>-store and retrieve files effectively, in line with local guidelines and conventions where available.</p> <p>-use suitable tools and techniques to create images.</p> <p>-use appropriate tools and techniques to manipulate and edit images.</p> <p>-check images meet needs, using IT tools and making corrections as necessary.</p>	

		effectively. -prepare slides for presentation. -check presentation meets needs, using IT tools and making corrections as necessary.		
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BTEC Media Year 10		Autumn A	Autumn B	Spring C	Spring D	Summer E	Summer F
Content		BTEC Tech Award in Creative Media Component 1: Exploring Media Products		BTEC Tech Award in Creative Media Component 2: Developing Digital Media Production Skills		BTEC Tech Award in Creative Media Component 3: Develop ideas in response to a brief	
Skills	All	<ul style="list-style-type: none"> -Identify media products, their purpose and audience, using limited examples from one or more sectors. -Identify how genre, narrative and representation are used to engage audiences, with reference to limited examples of media products. -Identify the production techniques used in the creation of media products, with reference to limited examples. 		<ul style="list-style-type: none"> -Demonstrate limited development of media production skills and techniques -Demonstrate limited application of pre-production skills and techniques when reworking aspects of an existing media product. -Demonstrate limited application of production and post-production skills and techniques when reworking aspects of an existing media product. -Identify own development of skills and techniques, with use of limited examples. 		<ul style="list-style-type: none"> -identify and respond to some of the requirements of the brief. -outline a simple idea for a media product, but this will be obvious and often incomplete. -attempt to produce the relevant planning materials, partially completed with limited understanding of the production process. -use basic skills and techniques to carry out practical tasks -Some areas for improvement will be identified and acted upon. -final product will be limited in terms of content and technical competence and will only be partially relevant to the client's needs or those of the target audience. 	
	Most	<ul style="list-style-type: none"> -Outline media products, their purpose and audience, using basic examples from one or more sectors -Outline how genre, narrative and representation are used to engage audiences, with reference to basic examples of media products. -Outline the production techniques used in the creation of media products, with reference to limited examples. 		<ul style="list-style-type: none"> -Demonstrate basic development of media production skills and techniques through some experimental practical work. -Demonstrate basic application of pre-production skills and techniques when reworking aspects of an existing media product. -Demonstrate basic application of production and post-production skills and techniques when reworking aspects of an existing media product. -Identify own development of skills and techniques, strengths and areas for improvement, with use of basic examples. 		<ul style="list-style-type: none"> -respond competently to the requirements of the brief. -generate and describe an appropriate idea for a media product. -produce relevant planning materials, most of which will be complete and workable and will reveal understanding of the production process. -use skills and techniques to carry out practical tasks and will be able to gather appropriate content for their product. -several areas for improvement will be identified and acted upon appropriately. -final product will contain suitable content which should be suitable to meet the client's needs and appeal to the target audience. 	
	Some	<ul style="list-style-type: none"> -Describe media products, their purpose and audience, with reference to relevant examples across all three media sectors. -Describe how genre, narrative and representation are used to engage audiences, with reference to relevant examples of media products. -Describe the production techniques used in the creation of media products, with reference to relevant examples. 		<ul style="list-style-type: none"> -Demonstrate appropriate development of media production skills and techniques through relevant experimental practical work -Demonstrate relevant application of pre-production skills and techniques when reworking aspects of an existing media product, leading to appropriate outcomes. -Demonstrate relevant application of production and post-production skills and techniques when reworking aspects of an existing media product, leading to appropriate outcomes -Describe own development and application of skills and techniques, using adequate examples to identify strengths and areas for improvement 		<ul style="list-style-type: none"> -respond effectively to the requirements of the brief. -generate and explain a highly effective idea for a media product. -produce highly detailed and relevant pre-production materials, which will be complete in all aspects and suitable for use as working documents and will reveal a clear understanding of the production process. -will be adept at using skills and techniques to carry out practical tasks and will be able to gather effective content for their production. -key areas for improvement will be identified and acted upon effectively. -the final product will be imaginative and technically efficient in order to meet all of the client's needs and appeal to the target audience. 	

BTEC Media Year 11		Autumn A	Autumn B	Spring C & D / Summer E & F
Content		BTEC Tech Award in Creative Media Component 1 internal assessment.	BTEC Tech Award in Creative Media Component 2 internal assessment.	BTEC Tech Award in Creative Media Component 3 external assessment.
Skills	All	<ul style="list-style-type: none"> -identify and respond to some of the requirements of the assignment brief. -identify purpose and audience of selected media product with limited examples from one or more sectors. -Identify how genre, narrative and representation are used to engage audiences, with reference to limited examples of the media product. -Identify the production techniques used in the creation of the media product, with reference to limited examples. 	<ul style="list-style-type: none"> -identify and respond to some of the requirements of the assignment brief. -demonstrate limited development of media production skills and techniques -demonstrate limited application of pre-production skills and techniques when reworking aspects of an existing media product. -demonstrate limited application of production and post-production skills and techniques when reworking aspects of an existing media product. -Identify own development of skills and techniques, with use of limited examples. 	<ul style="list-style-type: none"> -identify and respond to some of the requirements of the assignment brief. -outline a simple idea for a media product, but this will be obvious and often incomplete. -attempt to produce the relevant planning materials, partially completed with limited understanding of the production process. -use basic skills and techniques to carry out practical tasks -some areas for improvement will be identified and acted upon. -final product will be limited in terms of content and technical competence and will only be partially relevant to the client's needs or those of the target audience.
	Most	<ul style="list-style-type: none"> - respond competently to the requirements of the assignment brief. -outline media products, their purpose and audience, using basic examples from one or more sectors. -outline how genre, narrative and representation are used to engage audiences, with reference to basic examples of media products. -outline the production techniques used in the creation of media products, with reference to limited examples. 	<ul style="list-style-type: none"> - respond competently to the requirements of the assignment brief. -demonstrate basic development of media production skills and techniques through some experimental practical work. -demonstrate basic application of pre-production skills and techniques when reworking aspects of an existing media product. -demonstrate basic application of production and post-production skills and techniques when reworking aspects of an existing media product. -identify own development of skills and techniques, strengths and areas for improvement, with use of basic examples. 	<ul style="list-style-type: none"> -respond competently to the requirements of the assignment brief. -generate and describe an appropriate idea for a media product. -produce relevant planning materials, most of which will be complete and workable and will reveal understanding of the production process. -use skills and techniques to carry out practical tasks and will be able to gather appropriate content for their product. -several areas for improvement will be identified and acted upon appropriately. -final product will contain suitable content which should be suitable to meet the client's needs and appeal to the target audience.
	Some	<ul style="list-style-type: none"> -describe media products, their purpose and audience, with reference to relevant examples across all three media sectors. -describe how genre, narrative and representation are used to engage audiences, with reference to relevant examples of media products. -describe the production techniques used in the creation of media products, with reference to relevant examples. 	<ul style="list-style-type: none"> - respond effectively to the requirements of the assignment brief -demonstrate appropriate development of media production skills and techniques through relevant experimental practical work -demonstrate relevant application of pre-production skills and techniques when reworking aspects of an existing media product, leading to appropriate outcomes. -demonstrate relevant application of production and post-production skills and techniques when reworking aspects of an existing media product, leading to appropriate outcomes -describe own development and application of skills and techniques, using adequate examples to identify strengths and areas for improvement 	<ul style="list-style-type: none"> -respond effectively to the requirements of the assignment brief. -generate and explain a highly effective idea for a media product. -produce highly detailed and relevant pre-production materials, which will be complete in all aspects and suitable for use as working documents and will reveal a clear understanding of the production process. -will be adept at using skills and techniques to carry out practical tasks and will be able to gather effective content for their production. -key areas for improvement will be identified and acted upon effectively. -the final product will be imaginative and technically efficient in order to meet all of the client's needs and appeal to the target audience.

ASDAN Year 10		Autumn A	Autumn B	Spring C	Spring D	Summer E	Summer F
Content		Bronze Award <ul style="list-style-type: none"> • Section 1 Communication • Section 2 My Community 		Silver Award <ul style="list-style-type: none"> • Section 3 Sport & Leisure • Section 4 Independent living 		Gold Award <ul style="list-style-type: none"> • Section 5 My environment • Section 6 Number handling 	
Skills	All	-present information in a suitable format using pictures and text and other media -identify information from a search -recognise if the information is reliable -know how the use of ICT varies in and out of school -to be able to use ICT safely for communication.		-present information in a suitable format using pictures and text and other media -identify information from a search -recognise if the information is reliable -know how the use of ICT varies in and out of school -to be able to use ICT safely for communication.		-present information in a suitable format using pictures and text and other media -identify information from a search -recognise if the information is reliable -know how the use of ICT varies in and out of school -to be able to use ICT safely for communication. -know how to organise and process data for a purpose -use data handling software for a given purpose	
	Most	-present information with accuracy in a suitable format using pictures and text and other media -select useful information from a search -discuss if the information is reliable -understand how the use of ICT varies in and out of school		-present information with accuracy in a suitable format using pictures and text and other media -select useful information from a search -discuss if the information is reliable -understand how the use of ICT varies in and out of school		-present information with accuracy in a suitable format using pictures and text and other media -select useful information from a search -discuss if the information is reliable -understand how the use of ICT varies in and out of school -understand how to organise and process data for a purpose -select appropriate data handling software for a given purpose	
	Some	-present information using codes and conventions of the type of media produced using pictures and text and other media -describe useful information from a search -determine if the information is reliable -explain how the use of ICT varies in and out of school		-present information using codes and conventions of the type of media produced using pictures and text and other media -describe useful information from a search -determine if the information is reliable -explain how the use of ICT varies in and out of school -demonstrate		-present information using codes and conventions of the type of media produced using pictures and text and other media -describe useful information from a search -determine if the information is reliable -explain how the use of ICT varies in and out of school -how to organise and process data for a purpose -apply appropriate data handling software for a given purpose	

ASDAN Year 11		Autumn A	Autumn B	Spring C	Spring D	Summer E	Summer F
Content		Bronze Award <ul style="list-style-type: none"> Section 7 Health & wellbeing Section 8 World of work 		Silver Award <ul style="list-style-type: none"> Section 9 Science & technology Section 10 The wider world 		Gold Award <ul style="list-style-type: none"> Section 11 Expressive arts Section 12 Belief and values 	
Skills	All	<p>-present information in a suitable format using pictures and text and other media</p> <p>-identify information from a search</p> <p>-recognise if the information is reliable</p> <p>-know how the use of ICT varies in and out of school</p> <p>-to be able to use ICT safely for communication.</p>		<p>-present information in a suitable format using pictures and text and other media</p> <p>-identify information from a search</p> <p>-recognise if the information is reliable</p> <p>-know how the use of ICT varies in and out of school</p> <p>-to be able to use ICT safely for communication.</p>		<p>-present information in a suitable format using pictures and text and other media</p> <p>-identify information from a search</p> <p>-recognise if the information is reliable</p> <p>-know how the use of ICT varies in and out of school</p> <p>-to be able to use ICT safely for communication.</p>	
	Most	<p>-present information with accuracy in a suitable format using pictures and text and other media</p> <p>-select useful information from a search</p> <p>-discuss if the information is reliable</p> <p>-understand how the use of ICT varies in and out of school</p>		<p>-present information with accuracy in a suitable format using pictures and text and other media</p> <p>-select useful information from a search</p> <p>-discuss if the information is reliable</p> <p>-understand how the use of ICT varies in and out of school</p>		<p>-present information with accuracy in a suitable format using pictures and text and other media</p> <p>-select useful information from a search</p> <p>-discuss if the information is reliable</p> <p>-understand how the use of ICT varies in and out of school</p>	
	Some	<p>-present information using codes and conventions of the type of media produced using pictures and text and other media</p> <p>-describe useful information from a search</p> <p>-determine if the information is reliable</p> <p>-explain how the use of ICT varies in and out of school</p>		<p>-present information using codes and conventions of the type of media produced using pictures and text and other media</p> <p>-describe useful information from a search</p> <p>-determine if the information is reliable</p> <p>-explain how the use of ICT varies in and out of school</p>		<p>-present information using codes and conventions of the type of media produced using pictures and text and other media</p> <p>-describe useful information from a search</p> <p>-determine if the information is reliable</p> <p>-explain how the use of ICT varies in and out of school</p>	