

	design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems - <b>spreadsheets year 7 and year 8</b>
	understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem ?
	use 2 or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions <b>scratch year 7 python year 8 and year 9</b>
	understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers [for example, binary addition, and conversion between binary and decimal] <b>year 9</b>
	understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems <b>year 7</b>
	understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits <b>year 7 or year 8</b>
	undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users <b>esafety</b>
	create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability <b>esafety</b>
	understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct, and know how to report concerns <b>esafety</b>
	All pupils should be able to:

	develop their capability, creativity and knowledge in computer science, digital media and information technology <b>cross curricular</b>
	develop and apply their analytic, problem-solving, design, and computational thinking skills
	understand how changes in technology affect safety, including new ways to protect their online privacy and identity, and how to report a range of concerns

Year 7					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes
<ul style="list-style-type: none"> <li>• Use technology safely</li> <li>• Use technology responsibly and securely</li> <li>• Protect your online identity privacy</li> <li>• Recognise inappropriate content, contact and conduct</li> <li>• Be able to report concerns</li> </ul>	<ul style="list-style-type: none"> <li>• How to output data from a block based coding language</li> <li>• Declare and use Variables</li> <li>• How to input data from a block based coding language</li> <li>• How to make decisions in a block based coding language</li> <li>• How to create a loop in block based coding language</li> </ul>	Introduction to Spreadsheets Cells, rows, columns  Basic formulae  Basic functions  Conditional formatting  Advanced functions  Absolute cell references	What is grooming? Who can groom others? How to protect yourself?  What is catfishing? Who can catfish others? How to protect yourself?  What is sexting? Who can sext others? How to protect yourself?	Hardware and software General purpose versus embedded systems  Components of a computer system  Fetch decode execute cycle	App lab <ul style="list-style-type: none"> <li>• How to identify a problem</li> <li>• Graphic user interfaces</li> <li>• Event controlled programming</li> <li>• Debugging</li> <li>• Breaking down a problem</li> <li>• Producing a solution to a given problem</li> </ul>
Concepts	Concepts	Concepts	Concepts	Concepts	Concepts
Esafety Digital well being Digital footprint	Sequence Selection Iteration Variables Boolean operators	Formulae Functions Conditional formatting	Grooming Catfishing Sexting	Von neumann architecture Logic Fetch decode execute cycle	Decomposition Computational thinking Debugging Development lifecycle

Essential understanding	Essential understanding	Essential understanding	Essential understanding	Essential understanding	Essential understanding
<p>Pupils must</p> <ul style="list-style-type: none"> <li>Know the positive and negatives of social media</li> <li>Understand what cyber bullying is and what to do if affected</li> <li>Know what a digital footprint is and how to look after your digital wellbeing</li> </ul>	<p>Pupils must</p> <ul style="list-style-type: none"> <li>Know what a variable is and be able to declare and change the value of a variable</li> <li>Understand that programs are sequences of instructions carried out in order</li> <li>Know how to make a program make decisions using if statements and incorporating boolean operators</li> <li>Be able to use count and condition controlled iteration to loop parts of a program</li> </ul>	<p>Pupils must:</p> <ul style="list-style-type: none"> <li>be able identify main areas of a spreadsheet</li> <li>Be able to locate a cell by cell reference</li> <li>Create a basic formula using the correct symbols for +, -, * /</li> <li>Use basic functions</li> </ul>	<p>Pupils must:</p> <ul style="list-style-type: none"> <li>Know what the terms, grooming, catfishing and sexting mean.</li> <li>Be able to recognise what grooming looks like and how to report it</li> <li>Be able to spot catfishing and know how to report it</li> <li>Be able to recognise what sexting involves and how to avoid and report it</li> </ul>	<p>Pupils must</p> <ul style="list-style-type: none"> <li>Know the difference between general purpose and embedded dedicated computer systems</li> <li>Identify the main components that make up a computer system and have an idea what they do</li> <li>Understand the fetch decode execute cycle</li> </ul>	<p>Pupils must</p> <ul style="list-style-type: none"> <li>Be able to apply their previous coding knowledge to a different coding language</li> <li>Be able to use decomposition to identify and break down a problem into smaller more manageable problems</li> <li>Use the development lifecycle to produce a solution to an identified problem</li> <li>Apply the concepts of sequence, selection and iteration</li> </ul>
Assessment	Assessment	Assessment	Assessment	Assessment	Assessment
<p>Summative</p> <ul style="list-style-type: none"> <li>E safety infographic</li> </ul>	<p>Summative</p> <ul style="list-style-type: none"> <li>Assessed basic game level</li> </ul>	<p>Summative</p> <ul style="list-style-type: none"> <li>Unit assessment spreadsheet</li> </ul>	<p>Summative</p> <ul style="list-style-type: none"> <li>Extended writing piece? Pupils will</li> </ul>	<p>Summative</p> <ul style="list-style-type: none"> <li>Unit assessment quiz</li> </ul>	<p>Summative</p> <ul style="list-style-type: none"> <li>Unit assessment quiz and</li> </ul>

<ul style="list-style-type: none"> <li>Pupils should evidence an understanding of: what cyberbullying is and what to do if being bullied. What your digital wellbeing is and digital footprint. The positive and negative aspects of social media</li> </ul>	<ul style="list-style-type: none"> <li>Program will assess understanding of sequence, selection, iteration and variables</li> </ul>	<p>assignment</p> <ul style="list-style-type: none"> <li>Spreadsheet will assess understanding of formulae, functions, conditional formatting and charts</li> <li>Summative quiz testing key spreadsheet terms and concepts</li> </ul>	<p>produce a guide for younger people with advice on how to avoid grooming, catfishing and sexting</p>	<ul style="list-style-type: none"> <li>Main components of a computer system and what they do. General purpose and single use computers. What the FDE cycle is</li> </ul>	<p>developed app</p> <ul style="list-style-type: none"> <li>Quiz will assess recall and understanding of sequence selection and iteration, variables and data types</li> <li>App will provide further evidence of these key concepts</li> </ul>
<p>Review/ Revisit</p>	<p>Review/ Revisit</p>	<p>Review/ Revisit</p>	<p>Review/ Revisit</p>	<p>Review/ Revisit</p>	<p>Review/ Revisit</p>
<p>Retrieval on key concepts, keywords on current unit linking to next lesson.</p>	<p>Retrieval on key concepts, keywords for current unit, linked to each lesson. Spaced learning will revisit esafety content</p>	<p>Retrieval on key concepts, keywords, pupils will demonstrate understanding and mastery of cell referencing, formulae and functions. Spaced learning will cover e-safety, coding constructs and variables</p>	<p>Retrieval on key concepts, keywords linked to current learning, spaced learning will focus on coding constructs</p>	<p>Retrieval on key concepts, keywords linked to current lesson allowing pupils to build on previous learning. Spaced learning will test recall of spreadsheets and esafety</p>	<p>Retrieval on key concepts, keywords, allowing pupils to apply previous learning in a different context. Spaced learning will cover previous coding unit constructs and variables.</p>



<p>Pupils must</p> <ul style="list-style-type: none"> <li>• Know the positive and negatives of social media</li> <li>• Understand what cyber bullying is and what to do if affected</li> <li>• Know what a digital footprint is and how to look after your digital wellbeing</li> </ul>	<p>Pupils must</p> <ul style="list-style-type: none"> <li>• Know how to format a spreadsheet to make it more engaging to an audience</li> <li>• Know how to apply an IF function to make a decision in a spreadsheet</li> <li>• Know how to apply conditional formatting to enhance key information</li> <li>• Know how to use a COUNTIF function to count the number of times a piece of information is used</li> </ul>	<p>Pupils must</p> <ul style="list-style-type: none"> <li>• Know that symbols have been used to represent data for millenia</li> <li>• Be able to describe representations</li> <li>• Encode and decode data</li> <li>• Understand the binary number system</li> <li>• Convert from denary to binary and back again</li> <li>• Represent large numbers in binary</li> </ul>	<p>Pupils must:</p> <ul style="list-style-type: none"> <li>• Know what the terms, grooming, catfishing and sexting mean.</li> <li>• Be able to recognise what grooming looks like and how to report it</li> <li>• Be able to spot catfishing and know how to report it</li> <li>• Be able to recognise what sexting involves and how to avoid and report it</li> </ul>	<p>Pupils must:</p> <ul style="list-style-type: none"> <li>• Understand what Python is and how it is used</li> <li>• Know how to use basic Python commands</li> <li>• Use print functions and know about how to make simple calculations</li> <li>• Understand different date types</li> <li>• Understand how to program a variable</li> </ul>	<p>Pupils must:</p> <ul style="list-style-type: none"> <li>• Respond to a brief and discuss their design choices</li> <li>• Visualise a design for their mobile app</li> <li>• Create assets for the screens of their app</li> <li>• Code and connect their pages to create a functioning app</li> </ul>
<p>Assessment</p>	<p>Assessment</p>	<p>Assessment</p>	<p>Assessment</p>	<p>Assessment</p>	<p>Assessment</p>
<p>Summative</p> <ul style="list-style-type: none"> <li>• E safety infographic</li> <li>• Pupils should evidence an understanding of: what cyberbullying is and what to do if being bullied. What your</li> </ul>	<p>Summative</p> <ul style="list-style-type: none"> <li>• End of unit quiz</li> <li>• Pupils are tested on their knowledge of the key fundamentals learned in this topic using a range of multiple-choice questions</li> <li>• Pupils create a</li> </ul>	<p>Summative</p> <ul style="list-style-type: none"> <li>• Final data representation quiz</li> <li>• Pupils are tested on their knowledge of the key fundamentals learned in this topic using a</li> </ul>	<p>Summative</p> <ul style="list-style-type: none"> <li>• Final e-safety 2 quiz</li> <li>• Extended writing piece - Pupils will response to a scenario providing guidance and advice on an issue of grooming/sexting</li> <li>• They will be assessed on their ability to</li> </ul>	<p>Summative</p> <ul style="list-style-type: none"> <li>• Final python quiz</li> <li>• Create a program</li> <li>• Pupils will create a program in response to a scenario provided to</li> </ul>	<p>Summative</p> <ul style="list-style-type: none"> <li>• Final data representation quiz</li> <li>• Creation of the mobile app - Pupils create the app basing it on a brief provided. They will be</li> </ul>

digital wellbeing is and digital footprint. The positive and negative aspects of social media	multi-choice quiz of their own showing how each skill can be used - pupils choose their own quiz topic	range of multiple-choice questions <ul style="list-style-type: none"> <li>Pupils calculate binary/denary numbers in the quiz</li> </ul>	guide and persuade the audience	them <ul style="list-style-type: none"> <li>Pupils are also tested on their knowledge of the key fundamentals learned in this topic using a range of multiple-choice questions</li> <li></li> </ul>	assessed on their design and development approach
Review/ Revisit	Review/ Revisit	Review/ Revisit	Review/ Revisit	Review/ Revisit	Review/ Revisit
Retrieval on key concepts, keywords	Retrieval on key concepts, keywords Spaced learning (spreadsheet formatting; simple formulae and functions)	Retrieval on key concepts, keywords Spaced learning (spreadsheet conditional formatting; if and countif functions; drop down menus)	Retrieval on key concepts, keywords Spaced learning (binary numbers; how to convert binary to denary and back; how to use an ASCII table)	Retrieval on key concepts, keywords Spaced learning (what digital resilience is and how it can be developed; what grooming and sexting are and how to avoid/report them)	Retrieval on key concepts, keywords Spaced learning (what python is and how it can be used; who uses python)



Year 9					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes
<ul style="list-style-type: none"> <li>● Use technology safely</li> <li>● Use technology responsibly and securely</li> <li>● Protect your online identity privacy</li> <li>● Recognise inappropriate content, contact and conduct</li> <li>● Be able to report concerns</li> </ul>	<ul style="list-style-type: none"> <li>● Describe the difference between 'data-driven' and 'rule-based' approaches to application development</li> <li>● Name examples of AI applications</li> <li>● Outline some benefits and issues of using AI applications</li> <li>● Define machine learning's relationship to artificial intelligence</li> <li>● Name the three common approaches to machine learning</li> </ul>	<ul style="list-style-type: none"> <li>● Describe how images are represented by a computer system</li> <li>● Describe how colour is represented by a computer system</li> <li>● Describe how sound is represented by a computer system</li> </ul>	<p>What is grooming? Who can groom others? How to protect yourself?</p> <p>What is catfishing? Who can catfish others? How to protect yourself?</p> <p>What is sexting? Who can sext others? How to protect yourself?</p>	<ul style="list-style-type: none"> <li>● Binary number systems</li> <li>● Binary addition</li> <li>● hexadecimal</li> <li>● Use Boolean logic and truth tables to explore AND OR NOT expressions</li> <li>● Use boolean logic to create logic circuits using AND OR and NOT</li> </ul>	<ul style="list-style-type: none"> <li>● Apply previous knowledge of sequence, select, iteration and variables to a physical coding environment</li> <li>● Learn how to use programming to affect the physical environment</li> <li>● Play music</li> <li>● Use of the accelerometer to know where the computer is</li> </ul>

	<ul style="list-style-type: none"> <li>• Describe how classification can be solved using supervised learning</li> <li>• Describe the impact of data on the accuracy of a machine learning (ML) model</li> <li>• Explain the need for both training and test data</li> <li>• Explain how bias can influence the predictions generated by an ML model</li> </ul>				
Concepts	Concepts	Concepts	Concepts	Concepts	Concepts
Esafety Digital well being Digital footprint	<ul style="list-style-type: none"> <li>• Artificial intelligence</li> <li>• Machine learning</li> <li>• Rule based verses data driven programming</li> </ul>	<ul style="list-style-type: none"> <li>• Denary, Binary and hexadecimal number systems</li> <li>• Types of image and sound used</li> </ul>	Grooming Catfishing Sexting	Number systems Computer languages Boolean logic Logic gates	Sequence Selection Iteration Variables

	<ul style="list-style-type: none"> <li>Types of machine learning</li> <li>Making decisions</li> </ul>	<ul style="list-style-type: none"> <li>by a computer</li> <li>Data representation of bitmap images</li> <li>Data representation of sound</li> <li>compression</li> </ul>			
Essential understanding	Essential understanding	Essential understanding	Essential understanding	Essential understanding	Essential understanding
<p>Pupils must</p> <ul style="list-style-type: none"> <li>Know the positive and negatives of social media</li> <li>Understand what cyber bullying is and what to do if affected</li> <li>Know what a digital footprint is and how to look after your</li> </ul>	<p>Pupils must</p> <ul style="list-style-type: none"> <li>Understand rule based and data driven approaches to programming</li> <li>Understand the term machine learning</li> <li>Be able to describe supported unsupported and reinforcement learning processes</li> <li>Know that bias can affect the machine learning process.</li> </ul>	<p>Pupils must</p> <ul style="list-style-type: none"> <li>Understand that bitmap images are made up of pixels</li> <li>Know that pixels or picture elements are squares with a set colour</li> <li>Know the more bits used to represent each colour the more colours are available</li> <li>Know that sound is stored in a computer as binary data</li> <li>Understand that</li> </ul>	<p>Pupils must:</p> <ul style="list-style-type: none"> <li>Know what the terms, grooming, catfishing and sexting mean.</li> <li>Be able to recognise what grooming looks like and how to report it</li> <li>Be able to spot catfishing and know how to report it</li> <li>Be able to recognise what sexting involves and how to avoid and report it</li> </ul>	<p>Pupils must</p> <ul style="list-style-type: none"> <li>Be able to convert a denary number to an 8 bit binary number and back again</li> <li>Be able to convert a denary or 8 bit binary number to hexadecimal and back again</li> <li>Be able to add to 8 bit binary numbers together</li> <li>Understand the concept of an overflow error</li> <li>Understand</li> </ul>	<p>Pupils must</p> <ul style="list-style-type: none"> <li>Be able to use abstraction and decomposition to break down a complex problem</li> <li>Be able to apply the constructs of sequence selection iteration and variables to a physical coding environment using a text based programming language</li> <li>Be able to use programming to</li> </ul>

		<p>the frequency of the sound is sampled thousands of times per second</p> <ul style="list-style-type: none"> <li>• Know that the more times a sound is sampled and the more bits used to store each sample the higher the quality will be</li> </ul>		<p>basic boolean logic operations</p> <ul style="list-style-type: none"> <li>• Be able to produce truth tables for AND OR or NOT gates</li> <li>•</li> </ul>	<p>take input from buttons and an accelerometer in a physical programming environment</p>
Assessment	Assessment	Assessment	Assessment	Assessment	Assessment
<p>Summative</p> <ul style="list-style-type: none"> <li>• E safety infographic</li> <li>• Pupils should evidence an understanding of: what cyberbullying is and what to do if being bullied. What your digital wellbeing is and digital footprint. The positive and negative aspects of social media</li> </ul>	<p>Summative</p> <ul style="list-style-type: none"> <li>• Assessment quiz</li> <li>• Quiz will assess understanding of key terminology and concepts of AI, AI machine learning, classification machine learning styles</li> </ul>	<p>Summative</p> <ul style="list-style-type: none"> <li>• Unit assessment quiz assessing key concepts denary to binary conversion, bit, byte nibble, data representation of images, bit depth, resolution, file size, units of measure, hexadecimal and compression.</li> </ul>	<p>Summative</p> <ul style="list-style-type: none"> <li>• Final e-safety 2 quiz</li> <li>• Extended writing piece pupil will create a diary entry of a young person suffering from cyber bullying</li> </ul>	<p>Summative</p> <ul style="list-style-type: none"> <li>• Unit assessment quiz binary numbers, boolean logic, AND, OR NOT gates</li> </ul>	<p>Summative</p> <ul style="list-style-type: none"> <li>• Quiz will assess recall and understanding of sequence selection and iteration, variables and data types</li> <li>• Gadget will provide further evidence of these key concepts</li> </ul>

Review/ Revisit	Review/ Revisit	Review/ Revisit	Review/ Revisit	Review/ Revisit	Review/ Revisit
Retrieval on key concepts, keywords	Retrieval on key concepts Spaced learning will test recall of e safety concepts covered in previous unit.	Retrieval on key concepts Linking from previous lesson, spaced learning will test retrieval of AI concepts	Retrieval on key concepts, keywords linked to current unit. Spaced learning will test recall of previous e safety learning	Retrieval on key concepts And how they apply to current lesson. Spaced learning will test recall of data representation specifically, binary and hexadecimal as this links directly to the current unit.	Retrieval on key concepts from previous lesson linking to current lesson. Spaced learning will focus on coding constructs and variables covered in year 7 and 8

Year 10 Computer Science					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes
Purpose of a CPU Fetch Decode execute cycle Components of a cpu Von Neumann architecture Clockspeed Cache size Number of cores Embedded systems  Need for primary Storage Difference between RAM and ROM Purpose of RAM Purpose of ROM Virtual Memory  Need for secondary Storage Common types of storage	Suitability of storage devices Advantages and disadvantages of different types of storage Units of data storage Binary Data capacity Denary to binary and back Denary to binary and hexadecimal Binary addition up to 8 bits Binary left and right shifts Data representation of characters Images Sound compression  Networking Lans wans	Star and mesh networks Wires and wireless networks Network hardware Encryption Standards Protocols and layers	Malware Social engineering Brute force attacks Denial of service Data interception Sql injection Common prevention methods	User interface Memory management User management Peripheral management File management Encryption software Defragmentation software Data compression	Ethical issues Cultural issues Legal issues Environmental issues Privacy issues  Data protection act Computer misuse act Copyright designs and patents act Open source and proprietary software licening
Concepts	Concepts	Concepts	Concepts	Concepts	Concepts
Architecture of a CPU CPU Performance	Secondary storage Data conversion	Wired and wireless networks protocols and	Threats to computer systems and preventing	Operating systems and utility software	The impact of computing on society

Embedded systems Primary Storage Secondary storage	Data representation Data compression Networking concepts	layers	vulnerabilities		
Essential understanding	Essential understanding	Essential understanding	Essential understanding	Essential understanding	Essential understanding
<p>Pupils must</p> <ul style="list-style-type: none"> <li>● Know how and why a cpu works the way it does</li> <li>● The major internal components of a cpu</li> <li>● The factors that affect cpu performance</li> <li>● Why a computer needs primary storage</li> <li>● The features of primary storage</li> <li>● Why computers need secondary storage</li> <li>● Common storage technologies</li> </ul>	<p>Pupils must</p> <ul style="list-style-type: none"> <li>● Be able to decide on suitable storage devices for a given application</li> <li>● Know the advantages and disadvantages of storage technologies</li> <li>● Know the units of data storage</li> <li>● That all data on a computer is stored in a binary format</li> <li>● Be able to convert denary numbers to binary and hexadecimal</li> <li>● Understand how images sound and text are represented in binary</li> <li>● Know what a local area</li> </ul>	<p>Pupils must</p> <ul style="list-style-type: none"> <li>● Understand star and mesh network topologies</li> <li>● Know the common hardware components required to create a network</li> <li>● Understand the concepts of standards protocols and layers</li> </ul>	<p>Pupils must</p> <ul style="list-style-type: none"> <li>● Understand the common threats to networked computer systems</li> <li>● Know how to identify vulnerabilities and suggest ways to prevent them</li> </ul>	<p>Pupils must</p> <ul style="list-style-type: none"> <li>● Understand the function and features of an operating system</li> <li>● Understand the concept of utility software and the 3 required types of utility used in a computer system</li> </ul>	<p>Pupils must</p> <ul style="list-style-type: none"> <li>● Be able to construct a balanced argument covering the ethical, legal, cultural, environment and privacy issues surrounding computing</li> </ul>

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Assessment	Assessment	Assessment	Assessment	Assessment	Assessment
Unit test unit 1.1 Unit test unit 1.2a Coding challenges Homework completion Workbook completion	Unit test unit 1.2b Unit test unit 1.2c Unit test unit 1.2d Coding challenges Homework completion Workbook completion	Unit test unit 1.3 Coding challenges Homework completion Workbook completion	Unit test unit 1.4 Coding challenges Homework completion Workbook completion	Unit test unit 1.5 Coding challenges Homework completion Workbook completion	Unit test unit 1.6 Coding challenges Homework completion Workbook completion
Review/ Revisit	Review/ Revisit	Review/ Revisit	Review/ Revisit	Review/ Revisit	Review/ Revisit
Spaced learning all aspects of unit 1.1	Spaced learning all aspects of unit 1.1 and 1.2	Spaced learning all aspects unit 1.1,1.2,1.3	Spaced learning all aspects of unit 1.1 -14	Spaced learning all aspects of unit 1.1-1.5	Spaced learning all aspects of unit 1.1 - 1.6

Year 10 GCSE Business					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes T
The purpose of business activity and enterprise  Characteristics of an entrepreneur	The roles and objectives of internal and external stakeholder groups  The effect business	The use of segmentation to target customers  The 'four Ps' of the marketing mix and	Finance unit- The concept of revenue, costs and profit and loss in business and their importance in business decision-	The role of HR in Business  Why businesses recruit  The use of different	Different training methods  Why businesses train their workers



<p>The concept of risk and reward</p> <p>The purpose of planning business activity</p> <p>The role, importance and usefulness of a business plan</p> <p>The features of different types of business ownership</p> <p>The concept of limited liability</p> <p>The suitability of differing types of ownership in different business contexts</p> <p>The aims and objectives of business</p> <p>How and why objectives might change as businesses evolve</p> <p>Why different</p>	<p>activity has on stakeholders</p> <p>The effect stakeholders have on business</p> <p>-Organic growth and External growth</p> <p>The purpose of marketing within business</p> <p>The purpose of market research</p> <p>Primary research methods</p> <p>Secondary research sources</p> <p>How appropriate different methods and sources of market research are for different business purposes</p> <p>The use and interpretation of qualitative and quantitative data in market research</p>	<p>their importance</p> <p>Product</p> <p>Product - stages of the product life cycle</p> <p>Pricing methods</p> <p>Promotion - point of sale</p> <p>Promotion -advertising</p> <p>Place - distribution of products and services</p> <p>How the four Ps of the marketing mix work together</p> <p>The use of the marketing mix to inform and implement business decisions</p> <p>Interpretation of market data</p>	<p>making</p> <p>The different costs in operating a business</p> <p>Calculation of costs and revenue</p> <p>Calculation of profit/loss</p> <p>The purpose of human resources in business</p> <p>Different organisational structures</p> <p>The terminology of organisation charts</p> <p>Why businesses have different organisational structures</p> <p>Ways of working</p> <p>Ways of communicating in a business context</p> <p>The importance of business communications</p>	<p>recruitment methods to meet different business needs</p> <p>Methods of selection</p> <p>Financial methods of motivation</p> <p>Non-financial methods of motivation</p> <p>The importance of employee motivation</p> <p>The importance of employee retention</p>	<p>Staff development</p> <p>The benefits to employees and businesses of staff development</p> <p>The impact of current legislation on recruitment and employment</p>
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businesses may have different objectives  The roles and objectives of internal and external stakeholder groups			The influence of digital communication on business activity		
Concepts	Concepts	Concepts	Concepts	Concepts	Concepts
Business enterprise and entrepreneurship  Business planning  Business ownership  Business aims and objectives	Stakeholders in business  Business growth  The role of marketing  Market research	Market segmentation  The marketing mix	Revenue, costs, profit and loss  Organisational structures and different ways of working  Communication in business	The role of human resources  Recruitment and selection  Motivation and retention	Training and development  Employment law
Essential understanding	Essential understanding	Essential understanding	Essential understanding	Essential understanding	Essential understanding
Pupils must know that every activity of a business contributes towards the success or failure of a business.	Pupils must know that the activity of stakeholders can impact the growth of a business both	Pupils must know that the combination of factors (Product, price, place and promotion) work together to	Pupils must know that The Revenue, Costs of a business can impact the level of profit and loss a business	Pupils must know the role HR within a business in the recruitment and training of staff.	Pupils must know the benefits and drawbacks to offering training and staff development for a Business. They must

<p>Business planning helps any enterprise/Entrepreneur and different ownership models achieve its aims and objectives.</p> <p>Links to other topics:</p> <ul style="list-style-type: none"> <li>● Market Research</li> <li>● Market Segmentation</li> <li>● Promotion</li> <li>● Pricing strategies</li> <li>● Sources of Finance</li> <li>● Employment Law</li> <li>● Consumer Law</li> <li>● Physical education (Cross curricular)- Stakeholders of sporting bodies.</li> </ul>	<p>positively or negatively.</p> <p>That market research plays an important role in the marketing of a product or service.</p> <p>Links to other topics:</p> <ul style="list-style-type: none"> <li>● Consumer Law</li> <li>● Physical education (Cross curricular)</li> <li>● Stakeholders of sporting bodies.</li> </ul>	<p>successfully market a product to a specific market segment (Target market).</p> <p>Links to other topics:</p> <ul style="list-style-type: none"> <li>● Business planning</li> <li>● Business Ownership</li> <li>● Business aims and Objectives</li> <li>● Cost, revenue and profit</li> <li>●</li> </ul>	<p>generates.</p> <p>That businesses have different organisational structures and this can impact communication within businesses.</p> <p>Different organisational structures can be an additional cost to a Business.</p> <p>Links to other topics:</p> <ul style="list-style-type: none"> <li>● Business Ownership</li> <li>● Employment law</li> <li>● Costs, Revenue and profit</li> <li>● Working with suppliers</li> <li>● Aims and objectives</li> </ul>	<p>Pupils must know that motivation and retention of staff can impact the need for a business to recruit and select new staff.</p> <p>Links to other topics:</p> <ul style="list-style-type: none"> <li>● Employment law</li> <li>● Consumer Law</li> <li>● Costs, Revenue and profit</li> <li>● Aims and objectives</li> <li>●</li> </ul>	<p>know that different types of training and development bring different benefits to a business but also have drawbacks.</p> <p>Pupils must understand the cost of training and development but be aware of the impact on motivation and retention of staff.</p> <p>They must also understand that employees have rights within a business and it is the businesses responsibility to treat workers fairly and abide by laws and legislation.</p> <p>Students must understand the cost to a business of failing to comply with employment law.</p>
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Year 11 Computer Science					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes
<ul style="list-style-type: none"> <li>Abstraction</li> <li>Decomposition</li> <li>algorithmic thinking</li> <li>Designing creating and refining algorithms</li> <li>Searching and sorting algorithms</li> <li>Data types and variables</li> <li>Operators inputs and assignments</li> </ul>	<ul style="list-style-type: none"> <li>Defensive design</li> <li>testing</li> </ul>	<ul style="list-style-type: none"> <li>Logic diagrams</li> <li>Truth tables</li> <li>Combining and, or and not gates</li> </ul>	Ongoing exam revision of all specification areas	Ongoing exam revision of all specification areas  Paper 1 15th May 2024 Paper 2 21st May 2024	
Concepts	Concepts	Concepts	Concepts	Concepts	Concepts
<ul style="list-style-type: none"> <li>Computational thinking</li> <li>Algorithms</li> <li>Programming fundamentals</li> </ul>	<ul style="list-style-type: none"> <li>Producing robust programs</li> <li>Programming fundamentals</li> </ul>	<ul style="list-style-type: none"> <li>Boolean logic</li> <li>IDEs</li> </ul>			
Essential understanding	Essential understanding	Essential understanding	Essential understanding	Essential understanding	Essential understanding
Pupils must: <ul style="list-style-type: none"> <li>Understand the</li> </ul>	Pupils must <ul style="list-style-type: none"> <li>Be able to</li> </ul>	Pupils must <ul style="list-style-type: none"> <li>Know the</li> </ul>			

<p>concepts of computational thinking and be able to apply it to a logic problem</p> <ul style="list-style-type: none"> <li>• Know the main steps of searching and sorting algorithms</li> <li>• Be able to create coded solutions to simple logic problems</li> </ul>	<p>produce simple diagrams to show the structure of a problem</p> <ul style="list-style-type: none"> <li>• Be able to create coded solutions to simple logic problems</li> <li>• Be able to create a basic solution to a database query in SQL</li> <li>• Know the standard types of testing</li> <li>• Be able to select and use suitable test data</li> <li>• Be able to identify and fix syntax and logic errors</li> </ul>	<p>symbols for the 3 logic gates</p> <ul style="list-style-type: none"> <li>• Know the truth table for each logic gate</li> <li>• Be able to create logic diagrams for given scenarios</li> <li>• Know the difference between high and low level languages</li> <li>• Understand the need for translators</li> <li>• Know the tools available in an IDE</li> </ul>			
<p>Assessment</p>	<p>Assessment</p>	<p>Assessment</p>	<p>Assessment</p>	<p>Assessment</p>	<p>Assessment</p>
<p>Unit test unit 2.1 Unit test unit 2.2 Ongoing unit 2 exam prep Unit 1.6 9 mark question prep</p>	<p>Unit tests unit 2.3 Mock exam paper 1 Ongoing unit 2 exam prep  Unit 1.6 9 mark question prep</p>	<p>Unit test unit 2.4 Unit test unit 2.5 Ongoing unit 2 exam prep  Unit 1.6 9 mark question prep</p>	<p>Unit 2 full mock Ongoing unit 2 exam prep  Ongoing exam prep including command words, attempt and model  Unit 1.6 9 mark question prep</p>	<p>Unit 2 full mock Ongoing unit 2 exam prep  Ongoing exam prep including command words, attempt and model  Unit 1.6 9 mark question prep</p>	

Review/ Revisit	Review/ Revisit	Review/ Revisit	Review/ Revisit	Review/ Revisit	Review/ Revisit
Unit 1 all areas	Unit 1 all areas	Unit 1 all areas			



Year 11 GCSE Business					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes T
<p>Different production processes and their impact on businesses</p> <p>The influence of technology on production and the impact on businesses</p> <p>The concept of quality Methods of ensuring quality</p> <p>The importance of quality in both the production of goods</p>	<p>Factors influencing business location</p> <p>The role of procurement</p> <p>The impact of logistical and supply decisions on businesses</p> <p>The purpose of the finance function</p>	<p>The reasons businesses need finance</p> <p>Ways of raising finance</p> <p>How and why different sources of finance are suitable for new and established businesses</p> <p>The concept of revenue, costs and profit and loss in business and their importance in business decision- making</p>	<p>The importance of cash to a business</p> <p>The difference between cash and profit</p> <p>The usefulness of cash flow forecasting to a business</p> <p>Completion of cash flow forecasts</p> <p>Ethical considerations and their impact on</p>	<p>Revise and Review All topics will be covered again based on a revision SOW.</p>	

<p>and the provision of services</p> <p>Methods of selling The influence of e-commerce on business activity</p> <p>The importance to a business of good customer service including after-sales service</p> <p>The contribution of product knowledge and customer engagement to good customer service</p> <p>The impact of consumer law on businesses</p>	<p>The influence of the finance function on business activity</p>	<p>The different costs in operating a business</p> <p>Calculation of costs and revenue</p> <p>Calculation of profit/loss</p> <p>Calculation and interpretation of profitability ratios</p> <p>Calculation and interpretation of average rate of return</p> <p>The concept of break-even</p> <p>Simple calculation of break-even quantity The usefulness of break-even in business decision making</p>	<p>businesses</p> <p>Environmental considerations and their impact on businesses</p> <p>The economic climate and its impact on businesses</p> <p>The concept of globalisation The impact of globalisation on businesses</p> <p>The interdependent nature of business</p>		
<p>Concepts</p>	<p>Concepts</p>	<p>Concepts</p>	<p>Concepts</p>	<p>Concepts</p>	<p>Concepts</p>

<p>Production processes</p> <p>Quality of goods and services</p> <p>The sales process and customer service</p> <p>Consumer law</p>	<p>Business location</p> <p>Working with suppliers</p> <p>The role of the finance function</p>	<p>Sources of finance</p> <p>Revenue, costs, profit and loss</p> <p>Break-even</p>	<p>Cash and cash flow</p> <p>Ethical and environmental considerations</p> <p>The economic climate</p> <p>Globalisation</p> <p>The interdependent nature of business</p>		
Essential understanding	Essential understanding	Essential understanding	Essential understanding	Essential understanding	Essential understanding
<p>Pupils need to understand job, batch and flow production and the suitability of each. The impact of each production process on quality.</p> <p>Pupils need to understand the importance of quality in both production and quality of service.</p> <p>Pupils need to know e-commerce, face to face and telesales. The impact of each</p>	<p>Pupils need to understand the contributing factors that a business considers when choosing a location.</p> <p>Pupils need to understand the importance of location when working with suppliers and the impact it has on performance.</p> <p>Pupils need to understand the financial cost to a</p>	<p>Pupils need to understand the different methods of finance available to a business and their suitability to start-up and established businesses.</p> <p>Pupils need to understand how to calculate Revenue, costs, Break-even , profit and loss.</p> <p>Links to other topics:</p> <ul style="list-style-type: none"> <li>• Sources of</li> </ul>	<p>Pupils need to understand the importance of cash to a business.</p> <p>Pupils need to understand how the economic climate can impact revenue, costs, profit and loss for a business.</p> <p>Pupils need to understand the importance of ethical and environmental considerations for a business and both the</p>		

<p>method on business and what contributes to good customer service. Pupils need to understand that consumer law is a contributing factor in providing good customer service.</p> <p>Links to other topics:</p> <ul style="list-style-type: none"> <li>● Sources of finance</li> <li>● Geography (JIT Production)</li> <li>● D&amp;T (CAD &amp; CAM)</li> <li>● Recruitment and selection</li> <li>● Costs,Revenue and Profit</li> </ul>	<p>business of selecting a suitable location.</p> <p>Pupils need to understand the role of the finance function within a business in relation to planning, decision making and providing financial information.</p> <p>Links to other topics:</p> <ul style="list-style-type: none"> <li>● Sources of finance</li> <li>● Recruitment and selection</li> <li>● Costs,Revenue and Profit</li> <li>● The role of HR</li> </ul>	<p>finance</p> <ul style="list-style-type: none"> <li>● Maths (Formulae)</li> <li>● Business Location</li> <li>● Motivation and retention</li> <li>● Marketing</li> <li>● Business Growth</li> <li>● Business Ownership</li> <li>● Business planning</li> <li>● HR</li> </ul>	<p>financial and non-financial impact they can have.</p> <p>Pupils need to understand the influence of globalisation on business activity and how businesses compete on a global scale.</p> <p>Links to other topics:</p> <ul style="list-style-type: none"> <li>● Sources of finance</li> <li>● Business Growth</li> <li>● Recruitment and selection</li> <li>● Costs,Revenue and Profit</li> <li>● Business Ownership</li> <li>● Business Location</li> </ul>		
<p>Assessment</p>	<p>Assessment</p>	<p>Assessment</p>	<p>Assessment</p>	<p>Assessment</p>	<p>Assessment</p>
<p>End of unit test –</p>	<p>End of unit test –</p>	<p>End of unit test –</p>	<p><b>IN CLASS MOCK</b></p>	<p>End of unit test –</p>	<p>End of unit test –</p>



Year 10 OCR Cambridge National in Creative iMedia					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes T
<ul style="list-style-type: none"> <li>● Purpose, elements and design of visual identity</li> <li>● Graphic design and conventions</li> <li>● Properties of digital graphics and use of assets</li> <li>● Techniques to plan visual identity and digital graphics</li> <li>● Tools and techniques of imaging editing software used to create digital graphics</li> <li>● Technical skills to source, create and prepare assets for use within digital graphics</li> <li>● Techniques to save and export visual identity and digital graphics</li> </ul>		<ul style="list-style-type: none"> <li>● Job roles in the media industry</li> <li>● How style, content and layout are linked to the purpose</li> <li>● Client requirements and how they are defined</li> <li>● Audience demographics and segmentation</li> <li>● Research methods, sources and types of data</li> <li>● Media codes used to convey meaning, create impact and/or engage audiences</li> </ul>		<ul style="list-style-type: none"> <li>● Work planning</li> <li>● Documents used to support ideas generation</li> <li>● Documents used to design and plan media products</li> <li>● Legal considerations to protect individuals</li> <li>● Intellectual property rights</li> <li>● Regulation, certification, and classification</li> <li>● Health and safety</li> <li>● Distribution platforms and media to reach audiences</li> <li>● Properties and formats of media files</li> <li>● File compression</li> </ul>	

Concepts	Concepts	Concepts	Concepts	Concepts	Concepts
<ul style="list-style-type: none"> <li>● What is meant by visual identity?</li> <li>● The importance of graphic designs that incorporate visual identity and house style</li> <li>● Limitations of bitmap/raster file formats in terms how many colours are supported, scalability (enlarging) and whether transparent backgrounds can be included</li> <li>● Creating mood boards and mind maps with relevant content using physical materials - pictures, text, colours placed on large sheet/board</li> <li>● Setting the canvas size - expanding or modifying</li> <li>● Using internet, stock libraries or client library to search for suitable image assets</li> <li>● Using different storage locations to clearly differentiate original and edited assets in separate folders</li> <li>● Saving of files for visual identity and digital graphics as high resolution, proprietary format, master files as an archive for further edits</li> </ul>		<ul style="list-style-type: none"> <li>● Know the different sectors that form the media industry and how these are evolving</li> <li>● Know the types of products produced by, and used in, different sectors</li> <li>● Know that the same product can be used by different sectors</li> <li>● How each role contributes to the creation of media products</li> <li>● Know the different purposes of media products</li> <li>● How to recognise keywords and information in client briefs</li> <li>● Know the different categories of audience segmentation</li> <li>● The reasons for, and benefits of, conducting research</li> <li>● The advantages and disadvantages of primary and secondary research and data</li> <li>● Know the different technical, symbolic and written codes used to convey meaning, create impact and/or engage audiences</li> </ul>		<ul style="list-style-type: none"> <li>● The purpose of work planning Know the components of work plans</li> <li>● Know the purpose of each document</li> <li>● Know the components and conventions of each document</li> <li>● Know the hardware and software used to create each document</li> <li>● Know the purpose of each document</li> <li>● Know the components and conventions of each document</li> <li>● The purpose of, and reasons for, each legal consideration</li> <li>● What is required of media producers to comply with each legal consideration</li> <li>● Know what is meant by intellectual property</li> <li>● The purpose of, and reasons for, legislation to protect intellectual property</li> <li>● Know the types of products covered by regulation, certification and classification</li> <li>● Know common risks and hazards in media production</li> <li>● What is required of media producers to mitigate health and safety risks and hazards</li> <li>● Know the characteristics of the types of platform and media used to deliver products to audiences</li> <li>● Know what is meant by DPI/PPI</li> <li>● How DPI/PPI relates to resolution and image quality</li> <li>● Know what is meant by sample rate and bit depth</li> <li>● Know what is meant by frame rate</li> <li>● Know what is meant by SD, HD, UHD, 4K, 8K</li> <li>● How frame rate affects the quality of a</li> </ul>	

				product <ul style="list-style-type: none"> <li>● Know what is meant by lossy compression</li> <li>● Know what is meant by lossless compression</li> <li>● Why lossy and lossless compression are used</li> </ul>	
Essential understanding	Essential understanding	Essential understanding	Essential understanding	Essential understanding	Essential understanding
Pupils must: <ul style="list-style-type: none"> <li>- Be able to identify a visual identity</li> <li>- Be able to recognise the limitations of certain file formats</li> <li>- Be able to produce pre-production documentation to effectively plan digital graphics</li> <li>- Be able to use the internet effectively to source and resource their digital graphics</li> <li>- Be able to recognise the most effective methods of saving and exporting different digital graphics for different purposes and uses</li> </ul>		Pupils must: <ul style="list-style-type: none"> <li>- Know the different media sectors and their products</li> <li>- Know the different purposes of a media product</li> <li>- Know how an audience can be segmented</li> <li>- Know the different methods of research and how to identify them</li> <li>- Understand media codes and how they are used</li> <li>-</li> </ul>		Pupils must: <ul style="list-style-type: none"> <li>- How to plan their work and why it is important to do so</li> <li>- Know how to create and use different pre-production documents</li> <li>- Understand the legal implications behind using certain media products</li> <li>- Know the hazards and dangers of working in the media industry and how to keep themselves and others safe</li> <li>- Know how to manage the properties and specifications of a media product</li> </ul>	
Assessment	Assessment	Assessment	Assessment	Assessment	Assessment
Summative assessment in the form of a written assignment. Pupils will respond to a client brief provided by the exam board and must show all of the essential understanding above Worth 25% of their final grade		Summative assessment in the form of mock exams Pupils entered in January (baseline attempt) - result published in March Further mock exams in March and July of Y10			
Review/ Revisit	Review/ Revisit	Review/ Revisit	Review/ Revisit	Review/ Revisit	Review/ Revisit
Retrieval of design theory between the completion of each task on the assignment. Whiteboards and gap fill activities		Retrieval of content through: <ul style="list-style-type: none"> <li>- Online quizzes</li> <li>- Whiteboards tasks</li> <li>- Gap fill activities</li> </ul>			



	- Written/sketch responses
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Year 11 OCR Cambridge National in Creative iMedia					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes	Content/ Processes T
<ul style="list-style-type: none"> <li>● Types of character and features of characters</li> <li>● Characteristics and conventions</li> <li>● Resources used to create characters and comics</li> <li>● Software used to create characters and comics</li> <li>● Pre-production and planning for characters and comics</li> <li>● Technical skills to create characters for use as components within comics</li> <li>● Techniques for creating assets for use as components within comics</li> </ul>		Exam Jan of Y11 Result published in March Y11  If successful, course is complete  If unsuccessful, content from Spring/Summer Y10 is revisited			Re-attempt of exam June Y11, if needed



Pupils must: <ul style="list-style-type: none"> <li>- Be able to respond to the client brief and show that they understand what is being asked of them</li> <li>- Identify their target audience, who the comic is being made for</li> <li>- Generate story and character ideas for use in their comic</li> <li>- Create planning documents to aid in the generation of ideas</li> <li>- Visualise their character and comic ideas</li> <li>- Log the assets they intend to use</li> <li>- Design their characters and comics using suitable software</li> <li>- Save and export the finished products in suitable formats</li> <li>- Evaluate their success in creating their characters and comics and how well they feel they have met the client brief</li> </ul>		NA		NA	
Assessment	Assessment	Assessment	Assessment	Assessment	Assessment
Summative assessment in the form of a written assignment. Pupils will respond to a client brief provided by the exam board and must show all of the essential understanding above Worth 35% of their final grade		NA		NA	
Review/ Revisit	Review/ Revisit	Review/ Revisit	Review/ Revisit	Review/ Revisit	Review/ Revisit
Retrieval of comic design conventions and styles between the completion of each task on the assignment. Whiteboards and gap fill activities		NA		NA	

