Computing Across the Curriculum within Key Stage 4

Although students may not study GCSE Computer Science, they continue to develop the knowledge, skills and understanding outlined within the Key Stage 4 Computing National Curriculum through cross-curricular opportunities. Students regularly engage with computational thinking, digital literacy, information technology, digital media, online safety, data analysis and technology evaluation across a broad range of subjects. This ensures all students develop the confidence, competence and creativity required to participate safely and effectively in an increasingly digital world.

Students across KS4 will:

- Use digital technologies to create content.
- Analyse and interpret data using digital tools.
- Develop computational thinking through multiple subject disciplines.
- Learn about online safety, privacy and cybersecurity.
- Evaluate the impact of digital technologies on society.
- Use industry-standard software where appropriate.
- Develop digital literacy skills for further education and employment.

Subject / Strand	Computational thinking	Analytical Skills	Problem Solving & Design	Creativity	Digital Literacy, Data & Technology	E-Safety
Art	• Develop ideas and sampling by using decomposition to break down an image or idea, using a range of materials to sample techniques, working on one component at a time. • Use pattern recognition in artworks and surface pattern design. • Use algorithmic thinking to work through design stages using well-defined steps to create an outcome (sequencing).	• Analyse Primary and Secondary image sources. • Evaluate the significance of imagery and compare it with other examples. • Extract useful information from sources to use for written analysis. • Draw an overall conclusion based on evidence.	• Create design ideas. • Work around issues and solve problems such as issues with design choices/construction. • Solve the issue of the best materials and techniques to use for a specific purpose/piece of work. • Use decision making when implementing ideas.	• Creative skills are demonstrated throughout KS4. ○ The ability to research, ideas generation, exploration of materials, techniques and processes and the creation of outcomes fulfils this, using a variety of software. • Create and manipulate digital artwork using image editing and design software. • Evaluate how digital technologies are used by contemporary artists and designers.	• Use digital photography, image editing and graphic design software to create and refine artwork. • Use online galleries and digital portfolios to research, store and present work. • Understand copyright, intellectual property and the ethical use of digital images. • Evaluate the impact of digital technologies on contemporary art and design.	• Assess the reliability and trustworthiness of online information. • Understand copyright, intellectual property and attribution when sourcing digital images.
Citizenship	• Use decomposition by breaking down complex social and political issues into smaller, manageable parts.	• Analyse and evaluate evidence, arguments, and viewpoints on political, legal, and social issues.	• Identify community problems by recognising local, national, and global issues that affect citizens.	• Use creative problem solving by developing innovative solutions to social, political, and community issues.	• Evaluate the opportunities and risks associated with artificial intelligence and automated decision making.	• Communicate respectfully online by engaging with others online in a way that reflects respect, tolerance,

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	• Use abstraction to focus on key factors affecting an issue while filtering out unnecessary detail. • Use pattern recognition to identify trends in voting behaviour, social issues, or public opinion data.	• Interpret and analyse statistics, graphs, and survey results to understand societal trends and inform decisions. • Use logical reasoning and evidence to construct balanced arguments and justify conclusions. • Compare different solutions to civic and technological challenges and assess their consequences. • Evaluate and assess the effectiveness of policies, campaigns, and potential solutions. • Evaluate and assess the reliability, accuracy, and bias of online information and digital media.	• Generate solutions by developing practical responses to social, political, and environmental challenges. • Collaboratively plan by working with others to design campaigns, projects, and community actions. • Evaluate and assess options and select the most effective course of action. • Evaluate and review the impact and effectiveness of solutions, suggesting improvements where appropriate.	• Create persuasive campaigns to raise awareness and influence change. • Explore issues from different viewpoints to develop balanced and inclusive ideas. • Present opinions and arguments through speeches, posters, videos, debates, and social media. • Use active participation to design and lead citizenship actions that make a positive impact in the community.	• Understand how algorithms and artificial intelligence influence online experiences. • Evaluate the impact of social media on democracy, public opinion and society. • Recognise misinformation, fake news and digital manipulation. • Understand digital rights, privacy and responsible online participation.	and understanding of different beliefs. • Recognise misinformation by evaluating online content critically and identifying unreliable, biased, or misleading information. • Become digitally responsible by understanding the ethical implications of sharing content, comments, and personal information online. • Manage online risks by recognising and responding appropriately to cyberbullying, hate speech, radicalisation, and online exploitation. • Use safe online practices to protect personal data and maintain digital wellbeing. • Identify risks associated with echo chambers and personalised content feeds.

Dance	• Use decomposition skills when dances are broken down into smaller components to refine them.
	• Use pattern recognition to develop good technique and movement patterns.
	• Use algorithmic thinking sequencing when choreographing or learning dances.
		• Analyse recorded performances using digital playback tools to identify strengths and areas for development.
		  ○ Interpret performance evidence to justify evaluative judgements.
		  ○ Use observations from recordings to support analysis of performance.
		  ○ Draw an overall conclusion based on a balance of evidence.
		• Analyse professional performance works and the work of dance companies and practitioners.
			• Work in groups to make creative decisions and confront and overcome issues as they arise such as staging, blocking and choreography.	• Create a dance routine shown through a skill, movement or a tactic.
				• Use problem solving to identify a solution to a problem that is unexpected by an opponent.
					• Record, review and evaluate performances using digital video technology.
					• Create digital portfolios to document progress and performance outcomes.
					• Understand copyright and licensing requirements when using music in performances.
						• Apply safe search practices when gathering information online.

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Drama	• Use decomposition to break performances into staging, characterisation and movement components. • Use pattern recognition when performing and analysing scripts, seeing patterns in the lines in the play/musical. • Use algorithmic thinking using sequencing when choreographing and blocking scenes.	• Students analyse own performances and then evaluate the effectiveness. • Analyse professional performances and drama practitioners.	• Working in groups and creating performances. Being creative and making decisions. • Use problem solving to identify a solution to any problems as they arise such as staging, blocking, choreography, and characterisation.	• Using digital media to create backdrops, sound effects and projections used in performances. • Record and edit performances. • Apply effective lighting and sound effects using computers and lighting desks.	• Use digital sound, lighting and projection technologies to enhance performances. • Record and evaluate performances using video analysis software. • Create and manage digital portfolios of rehearsal and performance work. • Understand how digital production technologies are used within the creative industries. • Evaluate the effectiveness of digital production technologies in live theatre. • Evaluate the impact of digital technologies on modern theatre production and performance.	• Share digital media safely, responsibly and legally online. • Copyright in performances and live productions. • Understand copyright and licensing relating to scripts, music and recorded performances.

Engineering	• Develop ideas and sampling using decomposition to break down an image or idea, using a range of materials to sample techniques, working on one component at a time.
	• Use pattern recognition in CAD/CAM to design and explore different manufacturing techniques/scaling sizes.
	  ○ 2D/3D design linked to operating different manufacturing designs.
	• Use algorithmic thinking to work through design stages using well defined steps to an outcome.
		• Analyse information to make an overall conclusion based on the outcome of the design and model.
		• Analyse statistics and data to look for trends and to draw conclusions in manufacturing processes.
		• Use critical thinking and reasoning to analyse and evaluate. Allowing the opportunity to give opinions, consider alternative arguments, weigh up evidence and listen to and respond to the views of others when creating designs and prototypes.
		• Evaluate computer-aided manufacturing processes and digital production systems.
			• Create design ideas.
			• Use problem solving to identify a solution to any issues such as with design choices/construction.
			• Use problem solving to identify the best materials and techniques for a specific purpose/piece of work.
			• Use decision making and implement ideas against a brief.
				• Apply creative skills demonstrated throughout KS4.
				  ○ Research, ideas generation, exploration of materials, techniques and processes and the creation of outcomes fulfils this using a range of CAD/CAM software.
				• Use CAD software to design and modify digital prototypes.
					• Use CAD/CAM software to design, create, test and refine digital prototypes.
					• Understand how automated manufacturing systems use computer control.
					• Explore how embedded systems, sensors and automated manufacturing systems operate.
					• Explore how sensors, robotics and embedded systems are used in industry.
					• Evaluate the impact of digital technologies on manufacturing.
					• Evaluate the role of computer-controlled manufacturing systems.
					• Explore the impact of Industry 4.0 technologies including robotics and artificial intelligence.
						• Use digital design software and online resources safely and legally.
						• Exploring the Data Protection Act allows students to understand how to keep electronic data safe.
						• Safe and lawful use of information from other sources.
						• Understand cybersecurity considerations within automated and connected manufacturing systems.

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English	• Break down large chunks of analysis into smaller components. • Identify patterns in speech and dialogue. • Identify and explore narrative arcs and patterns within the stereotypical nature of an arc as well as the sequencing and composition of narratives creatively and independently. • Analyse Semantic fields. • Analyse poetry of rhyme and rhythm.	• Analyse language and structure. • Analyse world seminal texts, Shakespeare plays, pre and post 1900 poetry, modern drama. • Explore and evaluate writers' viewpoints and perspectives. • Respond to the views of others and formulate own arguments and perspectives.	• Translation of Shakespearean and pre 1900 Literature into modern English. • Use glossaries to extend vocabulary and understanding. • Use decoding skills to break down quotations and inferences / deeper meanings. • Use decoding at word level - deconstructing meaning in a complex text. • Understand the Etymology of words to enhance understanding.	• Apply creative writing skills, designing descriptions, narrative arcs, stories, poetry, using images as stimulus etc. using appropriate software. • Use reading to enhance imagination and to inspire own writing. • Use inferences based on own understanding of creative intent of writers.	• Evaluate the reliability, bias and credibility of online sources. • Develop digital literacy skills through research using online databases and digital texts. • Create digital presentations and multimodal texts for different audiences. • Recognise misinformation, disinformation and persuasive techniques in digital media.	• The dangers of social media explored through writing to argue / persuade. • Understand how the media can manipulate the viewpoints of society. • Recognise misinformation and disinformation within digital and print media. • Evaluate the reliability and bias of online sources.

Food Tech	• Use decomposition to break down recipes into individual processes and stages.
	• Use abstraction to identify the most relevant dietary and nutritional information when meeting a design brief.
	• Recognise patterns in food science principles, nutritional requirements and recipe adaptation.
	• Apply algorithmic thinking when sequencing food preparation and production tasks.
		• Analyse the significance of nutritional needs, comparing to others.
		• Extract useful information from sources to use for written analysis such as recipes and RI (recommended intake and legislation linked to food safety).
		• Draw an overall conclusion based on evidence when evaluating dishes using our senses, using star diagrams alongside written text.
		• Make a reasoned qualitative judgement considering different factors and knowledge/experience to answer exam questions.
		• Use nutritional databases and digital tools to analyse dietary information.
		• Interpret food labelling and nutritional datasets to inform food choices.
			• Create design ideas linked to a contextual challenge.
			• Use problem solving to identify solutions such as customer needs and dietary requirements.
			• Use problem solving to identify the best equipment and techniques to use for a specific ingredient.
				• Apply creative skills demonstrated throughout KS4.
				  ○ food styling from images and research using digital media.
				  ○ Research, ideas generation, exploration of materials, techniques and processes and the creation of outcomes.
				• Use digital platforms and design software to develop recipe portfolios and presentation materials.
					• Use nutritional analysis software to evaluate recipes and meal plans.
					• Research food trends, allergens and nutritional information using digital resources.
					• Create digital menus, promotional materials and recipe cards.
					• Understand food labelling legislation and the use of digital information systems within the hospitality industry.
						• Follow safe and legal practice when using online recipes and digital resources.
						• Exploring the Data Protection Act allows students to understand how to keep electronic data safe.
						• Safe and lawful use of information from other sources.

French	• Use abstraction and decomposition when paring	• Analyse and appraise chunked language to identify	• Solve problems of language choice and interconnectivity	• Creation of audio files for preparation and practise in	• Use digital language-learning platforms to	• AQA French Theme 3, Topic 8: Media and Technology.

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	down language chunks for closer analysis and reapplication across contexts. • Use pattern recognition in applications of phonics, vocabulary/syntax and grammatical processes. • Apply algorithmic thinking in production and manipulation of grammatical structures and processing. • Recognise trends and exceptions in irregular and colloquial structures and verbs which do not follow predefined patterns.	and reinforce phonological, lexical and grammatical knowledge. • Analyse rich texts to identify and evaluate language use in context.	across syntactical and lexical sequences of speech/writing. • Solve problems by informing choices of tense, time frame and mood alongside stylistic choices to enhance and develop language richness in written/spoken tasks. • Use decision making in transactional role play, requesting correct information in context.	speaking tasks including mock and final exams, using appropriate software. • Use of online language learning tools e.g. Quizlet, Blooket, Kerboodle for creating individualised retrieval and practise.	support vocabulary acquisition and pronunciation. • Create audio and video recordings to improve speaking skills. • Communicate appropriately and safely using digital communication technologies. • Evaluate the reliability of online translation tools and language resources. • Evaluate the strengths and limitations of translation software and AI language tools.	Explore and discuss online risks, device/Internet usage including frequency and addiction, consequences of excessive internet usage, advantages and disadvantages of technology and the internet.
Geography	• Use decomposition to break down themes in geography to understand the bigger picture such as studying urbanisation through the lens of migration, natural increase, squatter settlements and sustainability. • Use models to describe and explain abstract concepts such as urbanisation, water cycle, migration, glaciation, nutrient cycle and DTM. • Recognize trends in data in the use of graphs/statistical work and then be able to draw conclusions. • Use algorithmic thinking to understand complex theories in geography such as the formation of a corrie.	• Extract useful information from sources, graphs and maps. • Extract relevant information from given text and data to draw conclusions and evaluate. • Analyse the validity of conclusions, trends and patterns in fieldwork. • Understand that people have different opinions and be able to make a balanced judgement/conclusion. • Analyse large geographical datasets using digital technologies.	• Use problem solving in fieldwork when discovering unseen elements, suggesting suitable solutions. • Use decision making and implementation of ideas (Issue Evaluation). • Evaluate geographical opportunities and challenges that the physical world presents to human societies, judge the significance of each problem or opportunity to make a judgement and propose appropriate responses.	• Create graphs and data presentation techniques for primary fieldwork findings, using appropriate software. • Create mapping techniques including GIS (Graphic Information System) connecting data to a map. • Use online learning tools such as Seneca, Internet Geography, Office Forms, Cool Geography and Quizlet for creating individualised retrieval and practise. • Create and interpret digital maps using GIS software.	• Use GIS software to collect, store and analyse geographical datasets. • Use spreadsheets to model and present fieldwork data. • Interpret digital maps and satellite imagery. • Present geographical data using digital mapping and visualisation tools. • Evaluate reliability and accuracy of geographical data sources.	• Protect personal data when using digital platforms. • Discuss ethics of how people can actively communicate and recognise consent from others, and how and when consent can be withdrawn during fieldwork.
Health & Social Care	• Use decomposition to break complex care scenarios into individual needs and factors. • Use abstraction to focus on the most relevant information in a case study	• Make reasoned qualitative judgements considering different factors, using available knowledge / experience to answer exam questions.	• Explain the impacts of actions using a logical chain of reasoning. • Identify needs by analysing a person's physical, intellectual, emotional, and	• Be creative when producing a health promotion campaign, using appropriate software, to be presented to peers.	• Understand how electronic patient records are stored, accessed and protected. • Explore how data protection legislation applies to healthcare.	• Understand copyright and intellectual property when using online resources. • Exploring the Data Protection Act allows

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	while ignoring details that do not affect the care decision. • Use pattern recognition to identify common signs, symptoms, or lifestyle factors that may affect health and wellbeing across different case studies.	• Analyse a person's physical, intellectual, emotional, and social (PIES) needs to identify the support they require. • Compare and examine different health and social care services and evaluate which service would best meet a person's needs. • Analyse and interpret case study information provided to explain why a person has particular needs or how different factors affect their health and wellbeing. • Explain the impacts of actions using a logical chain of reasoning (sequencing).	social (PIES) needs to understand the challenges they face. • Find appropriate solutions by selecting suitable health and social care services, treatments, or interventions to meet an individual's needs.		• Understand the importance of cybersecurity and data protection in healthcare settings. • Explore the use of wearable technology and digital monitoring systems in healthcare. • Evaluate the benefits and risks of digital health technologies. • Explore the use of AI in diagnosis, monitoring and patient care. • Evaluate the opportunities and risks associated with artificial intelligence and automated decision making. • Evaluate how digital technologies improve communication between healthcare professionals and patients.	students to understand how to keep electronic data safe. • Understand how electronic patient records are stored, shared and protected. • Explore cybersecurity risks in healthcare settings.
History	• Use decomposition to explore themes such as social, political and economic to understand their impact on society for rates of change. • Use pattern recognition when analysing patterns of continuity and change. • Using algorithmic thinking when writing a narrative account, placing events in correct chronological order to reach an outcome. Placing historical events into chronological order (sequencing).	• Analyse primary sources for their usefulness and validity for an enquiry. Considering source content as well as provenance. • Evaluate historians' interpretation of past events and formulate an argument to come to an overall judgement.	• Analyse where abstract sources come from and author, applying its usefulness to the context of the time. • Apply own knowledge to sources and interpretations to solve big questions. • Use problem solving when exploring ciphers and coding during Elizabethan England.	• Use creative tools to create presentations on historical findings/information, using appropriate software. • Create digital presentations, documentaries and timelines to communicate historical interpretations. • Use digital archives and databases to support historical research.	• Use digital archives, databases and online collections to support historical enquiry. • Evaluate the reliability, origin and purpose of digital sources. • Create digital timelines, presentations and documentaries to communicate findings. • Understand how technology has changed the preservation and accessibility of historical information.	• Consider where sources come from and how their context may impact their reliability. • Use sources effectively to consider evidence in the real world including TikTok's, news articles on Facebook. • Evaluate the reliability and provenance of digital historical sources.
IMedia (ICT)	• Use decomposition when breaking down strands within coursework (NEA) mark	• Review Primary and Secondary sources when analysing exam scenarios and	• Create a range of design and planning documents with creative elements such as	• Use image editing software to create products required	• Use industry-standard software to create digital media products.	• Identify different legislation surrounding assets and data. Understanding intellectual

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	schemes to identify tasks and improvements. • Use abstraction when removing unnecessary detail to ascertain important information from set assignments within coursework (NEA). • Use pattern recognition when creating Mood Boards and Mind Maps during coursework (NEA) and analysis of them when completing exam questions on these pre-production planning documents. • Apply algorithmic thinking when following the flow of data within Flow charts.	coursework (NEA) set assignments. • Analyse the suitability and properties of digital graphic and other assets when sourcing them. • Explain both the validity and reliability of sources when sourcing for use within coursework (NEA). • Extract the most relevant information from set assignments and exam questions to develop the most effective answers. • Use critical thinking when deciding which images are most suitable for Mood Board, as well as deciding what should be include in visualisation diagrams. • Analyse pre-production documents suitability for both audience and purpose in order to answer 12 mark essay question within examined unit.	mood boards, visualisation diagrams and wire frames diagrams. • Solve problems presented within the set assessment, deciding on what software, hardware and planning documents to create/use. • Create designs required to complete each coursework (NEA) unit.	with the coursework (NEA) applying advanced tools. • Use image editing, video editing, sound editing, animation and web development software to create products required with the coursework (NEA) applying advanced tools. • Use a variety of different software to apply creativity to pre-production documents. • Evaluate creative documents, identifying positives, negatives and ways to improve and further develop.	• Understand how digital assets are stored, managed and distributed. • Evaluate the impact of AI generated content on media production and audience trust. • Evaluate the opportunities and risks associated with artificial intelligence and automated decision making.	properties, copyright, trademarks, Creative Commons and data protection. • Identify steps for how to avoid breaking legislation surrounding the use of assets and the internet. • Understand the ethical use of AI-generated content and digital assets. • Evaluate risks associated with sharing digital content online.
Mathematics	• Solve complex mathematical problems using decomposition working on individual parts of a problems before combining them to solve a larger problem. • Use abstraction simplifying problems by removing unnecessary detail and focussing on the maths that can be used to solve a given problem. • Use pattern Recognition analysing data to draw conclusions such as cumulative frequency curves and box plots.	• Analyse data presented to understand and draw conclusions. • Use critical thinking when comparing data sets or graphs and drawing conclusions about one over the another. • Reflect on how solutions determined may have been affected by any modelling assumptions made during modelling. • Structure work in such a way that can easily be revisited to identify errors in the steps taken should they occur, such	• Select appropriate concepts, methods and techniques to apply to unfamiliar and non-routine problems, interpreting their mathematical solution in the context of the problem they are solving. • Use problem solving to identify a problem and then develop and implement a step by step plan to solve said problem.	• Use specialist software creatively to model and explore mathematical concepts. • Explore the effect of changing and manipulating variables in equations using tools for plotting graphs. • Use Geogebra software for modelling and exploring geometric properties allowing students to develop a stronger understanding of these concepts.	• Use spreadsheets to model financial and statistical scenarios and graphing software to model and analyse data. • Create and interpret digital representations of data using graphs, charts and statistical outputs. • Interpret algorithms used within mathematical methods and explore how algorithms are applied in mathematics and real-world problem solving.	• Critically evaluate data during data and data handling, such as how graphs and charts can be used to convey a chosen point of view. • Look critically at the source of any information found online. • Use technology safely during the gathering of information for homework or in lessons.

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	• Make and use connections between different parts of mathematics to solve problems. • Use algorithmic thinking following a series of steps (sequencing) to find the solution to a problem, such as when solving equations.	as showing all working, with lines of calculations written under one another.			• Understand how data is processed and presented digitally. • Explore real-world applications of data science and modelling. • Develop an understanding of how mathematical models are used in technology and computing.	
Media Studies	• Use decomposition when breaking down narratives into main parts. Links to Todorv's narrative theory. • Use abstraction when using network diagrams and interaction graphs to abstract relationships within media texts (between characters, between producers and audiences etc.) • Use pattern recognition when comparing of audience engagement trends with different media platforms and their relevance in social and historical contexts. • Use algorithmic thinking to work through design stages using well defined steps to create a composite media product.	• Analyse semiotics across a variety of media texts across a range of media formats. • Explore the relationship between how institutions encode meanings within media texts and how audiences decode those meanings (reception theory). • Evaluate methods used within media industries to produce, market and exhibit a range of media texts to maximise profit and engagement.	• Design and construct a media product (NEA project) based on requirements of a given brief. • Use problem Solving when researching and decide on the best methods to employ to appeal to their target audiences and meet the generic conventions as required by the brief. • Evaluate when exploring the conventional design elements used in a variety of genres and how effective it is to either conform to or break conventional design models.	• Use software such as photoshop (alongside other online based design tools) creatively to construct a design and manipulate images to create media texts. • Use digital imagery successfully captured by digital devices that will be used during design stages of NEA and other practical tasks.	• Evaluate how algorithms influence audience engagement and content recommendations. • Analyse how audience data is collected and used for targeted advertising. • Understand how artificial intelligence is changing media production. • Evaluate the opportunities, risks and ethical implications of AI-generated content. • Explore the impact of digital technologies on media industries.	• Understand the dangers of online currency in GaaS products and other media formats (Online spending). • Explore the impacts of over-exposure to online media formats and evaluation of how various countries are dealing with the threat of online addiction (Online Addiction). • Develop knowledge and understanding of how a variety of media industries are regulated and the dangers of online media, which is notoriously difficult to monitor (Regulation). • Explore the various uses and impacts that social media can have for audiences and industries alike (Impacts of Social media).
Music	• Use decomposition when assessing rhythms in performance, composition and analysing. • Use abstraction when studying set works stripping away all unnecessary details, for example melody and harmony to see chord structures or rhythmic devices.	• Analyse music in performance for decision making. How to play style/focus. • Analyse composers, seeing what they have done to aid own composition. • Analyse own compositions and performances. Do they work? Sound finished?	• Work in groups to support creative design decisions in performance. • Solve problems in composition, for example key changes and modulations. • Design concerts and performances.	• Use creative composition skills, using Sibelius and Bandlab software. • Use DAW software (Digital Audio Workstation) creatively. • Use creativity in individual performance.	• Use digital audio workstations (DAWs) to record, edit and produce music. • Understand how digital audio systems capture, store and edit sound. • Evaluate how digital technologies have transformed music	• Share and distribute digital music safely, responsibly and legally online. • Understand copyright in composing and performance music. • Understand licensing, copyright and intellectual property when creating and distributing digital music products.

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	• Use pattern recognition when composing/performing and analysing music, seeing patterns in music. • Use algorithms when looking and studying different intervals (patterns) during listening and composing sessions. • Apply algorithmic thinking when following structured, step by step processes to compose music (sequencing).				production, distribution and consumption.	
Physical Education	• Use decomposition when breaking down skills into smaller components in order to refine them, for example, the rules of the sport, the requirements of the sport? • Use abstraction when removing unnecessary detail when creating fitness Training plans and progression within. • Use pattern recognition when developing good technique and movement patterns. For example, developing tactics and formations, using statistics taken from a game on performance, such as number of shots on target or possession of the ball. • Use algorithmic thinking when creating a warm-up plan. For example, when coaching a session to include the different aims and parts. • Use information processing model when performing a skill in any sport.	• Analyse data such as: ○ fitness testing to compare against normative data and interpret what it means. ○ own and others performance in a sporting activity, identifying areas of strengths and areas to improve upon. Using this information to plan for improvement. ○ trends in physical activity participation. ○ recorded from performance, such as number of goals scored. • Use critical thinking and reasoning to analyse and evaluate, allowing the opportunity to give opinions, consider alternative arguments, weigh up evidence and listen to and respond to the views of others. • Extract useful information from scenarios to use for describe and explain questions.	• Use creative design when working in teams to support tactics and decisions that can affect the outcome in a performance. • Use problem solving to overcome problems which may arise during a performance, such as the opposition having a strong right winger, how do we overcome that? • Adapt performance to overcome challenges within a game. • Use problem solving to overcome problems which may arise when delivering sports session as a sports leader. • Produce a risk assessment document for sessions being delivered.	• Create a trampoline or dance routine, using appropriate software. • Use problem solving to identify a solution to a problem that is unexpected by an opponent, such as a skill, movement or a tactic. • Create a health and physical activity campaign poster, using appropriate software. • Create a session plan to deliver to students in the class.	• Use video analysis software to evaluate and improve performance. • Interpret data collected from fitness tracking devices. • Analyse performance data collected through fitness tracking devices and wearable technology. • Understand how data analytics is used to support performance improvement in sport. • Understand issues surrounding the collection, storage and sharing of personal health data. • Evaluate the accuracy and limitations of digital sports analytics. • Evaluate how technology is used in elite sport for performance monitoring.	• Use technology safely during the gathering of research whilst using the internet. • Analyse sports professionals social media pages and the impact sponsorship and the media has on them. • Evaluate the collection and sharing of personal fitness data through digital platforms. • Evaluate the benefits and limitations of wearable technology in sport and physical activity. How does technology impact what we see as healthy?

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		• Make a reasoned qualitative judgement considering different factors and using available knowledge / experience to answer exam questions. • Analyse performance and fitness data collected from wearable technologies.				
PSHE/RSHE/World Ready	• Use decomposition when breaking complex health and wellbeing issues into smaller, manageable parts. • Use abstraction when focusing on key factors affecting a situation while ignoring irrelevant details. • Use pattern Recognition by identifying trends in behaviour, relationships, and lifestyle choices.	• Use critical thinking to evaluate information and make informed decisions about health, relationships, and wellbeing. • Analyse and assess the potential consequences of choices and behaviours. • Use decision making to weigh up options and select appropriate courses of action. • Evaluate and assess the reliability and accuracy of health and lifestyle information. • Use logical reasoning to make decisions based on evidence, facts, and likely outcomes. • Evaluate and assess the effectiveness of decisions, strategies, and support systems. • Use reflective thinking to assess personal values, experiences, and goals to support personal development.	• Identify personal and social challenges by recognising issues that affect wellbeing, relationships, and communities. • Develop solutions by creating practical strategies to manage challenges and improve outcomes. • Use decision making to choose effective actions based on evidence and understanding of consequences. • Plan for wellbeing by designing personal goals and strategies to support physical and mental health. • Evaluate outcomes by reflecting on decisions and adapting approaches where necessary.	• Use creative problem solving by finding positive solutions to personal, social, and health-related challenges. • Use empathy and perspective by understanding and responding to the experiences of others. • Use creative communication when expressing ideas effectively through discussions, presentations, campaigns, and media. • Develop initiatives that promote wellbeing, safety, and healthy lifestyles. • Use personal reflection to generate new ideas and goals for personal growth and future aspirations.	• Understand how digital communication technologies enable collaboration and information sharing. Cybersecurity • Understand password security and multi-factor authentication. • Recognise phishing, scams and social engineering. • Understand data breaches and their impact on organisations. • Understand secure handling of sensitive information. Artificial Intelligence • Evaluate the benefits and risks of AI technologies. • Understand how algorithms influence online experiences. Digital Footprint • Manage personal information online. • Understand long-term implications of digital content. • Develop strategies for maintaining a positive digital footprint.	• Protect personal information by understanding how to keep personal data, passwords, and online accounts secure. • Develop healthy online relationships by recognising respectful behaviour online and managing digital communication safely. • Recognise online risks by identifying cyberbullying, grooming, scams, harmful content, and other online dangers. • Critically evaluate online content by assessing the reliability of information, social media posts, and online influences. • Seek help and report concerns by knowing how and when to report online issues and access support from trusted sources. • Understand password security and multi-factor authentication. • Recognise phishing attempts, online scams and identity theft. • Understand the implications of a digital footprint and online reputation.

Subject / Strand	Computational thinking	Analytical Skills	Problem Solving & Design	Creativity	Digital Literacy, Data & Technology	E-Safety
					• Evaluate the impact of technology and social media on wellbeing and relationships.	
Religious Studies	• Use decomposition when breaking complex ethical or religious issues into smaller, manageable parts. • Use abstraction when focusing on the key principles of a moral issue while filtering out less relevant details. • Use pattern recognition to identify similarities and differences between religious beliefs, practices, and viewpoints.	• Use logical reasoning and evidence to structure arguments and reach justified conclusions about ethical and religious issues. • Evaluate the reliability, accuracy and bias of sources. • Analyse complex moral dilemmas from multiple viewpoints. • Identify similarities and differences between religious teachings and different viewpoints. • Apply critical thinking when evaluating ethical arguments. • Evaluate the strengths and weaknesses of different responses to religious issues.	• Identifying ethical problems by recognising moral issues and questions in real-life situations. • Use problem solving to generate solutions by exploring different religious and non-religious responses to complex problems and evaluating their strengths and weaknesses. • Use decision making to weigh evidence, values, and consequences to reach a justified conclusion. • Evaluate outcomes by assessing the impact of decisions and proposed solutions on individuals, communities, and the wider world.	• Use creative problem solving when exploring innovative responses to ethical, moral, and social issues. • Use perspective taking skills when imagining and understanding different religious and non-religious viewpoints. • Design arguments by constructing original and well-supported responses to philosophical questions. • Use creative communication to present beliefs, values, and ideas through debates, presentations, writing, and media. • Use reflective thinking by developing personal ideas and insights by engaging with religious teachings and contemporary issues.	• Evaluate online sources when researching religious and ethical issues. • Recognise bias, misinformation and differing viewpoints found online. • Use digital technologies to research, present and communicate arguments. • Consider ethical issues surrounding artificial intelligence and emerging technologies.	• Communicate respectfully online by engaging with others online in a way that reflects respect, tolerance, and understanding of different beliefs. • Recognise misinformation by evaluating online content critically and identifying unreliable, biased, or misleading information. • Demonstrate digital responsibility by understanding the ethical implications of sharing content, comments, and personal information online. • Manage online risks by recognising and responding appropriately to cyberbullying, hate speech, radicalisation, and online exploitation. • Protect privacy by using safe online practices to protect personal data and maintain digital wellbeing.
Science	• Use of models to describe and explain abstract concepts such as: ○ Cell division, movement of substances, enzyme action, negative feedback control, chromosome behaviour during meiosis, models of the atom, electron configuration, ionic compounds, covalent compounds,	• Analyse trends in data in required practical results and drawing conclusions from this. • Extract relevant information from given text and data to draw conclusions and evaluate. • Make reasoned judgements using scientific understanding and source information.	• Plan experiments to make observations, test a hypothesis, check data or explore phenomena (required practical's). • Work around solving problems with experimental technique and errors. • Use problem solving when completing mathematical components of science. When calculating an	• Create animations to model processes in cells, using appropriate software. • Create models to show abstract concepts such as cells structures, particle models, electrical circuits and the national grid, using appropriate software. • Design methods to investigate relationships, using appropriate software.	• Use sensors and datalogging equipment to collect experimental data. • Evaluate the reliability of digitally collected data. • Collect, process and interpret experimental data using spreadsheets and digital technologies. • Investigate digital monitoring equipment and sensors used in scientific research.	• Evaluate the reliability of scientific information obtained online. • Understand ethical issues relating to scientific data collection and storage.

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	changes of state, density, particle arrangement. • Recognize trends in data in required practical results and drawing conclusions from this. • Recognize trends in activity in period 1 and 7 elements. • Use a series of stages to complete Punnett square diagrams and determine the outcome of genetic crosses (sequencing).	• Use spreadsheets and digital software to process and interpret experimental data.	unknown value(s) in chemistry and physics.	• Create models of DNA, using appropriate software. • Create models using molymods to make elements and compounds, using appropriate software. • Create simulations and digital models to represent scientific concepts.	• Use spreadsheets, simulations and modelling software to investigate scientific concepts. • Explore the role of computer modelling and simulations in scientific research. • Understand ethical issues and data protection considerations associated with scientific data. • Represent experimental data using digital graphs and data visualisation software.	