

Curriculum Knowledge Map



CHS Computing and Technology 2022/2023

AQA GCSE Design and Technology (8552)

GCSE Design and Technology Exam Paper 1	Non-exam assessment (NEA)
<p style="text-align: center;">Written exam: 2 hours 100 marks - 50% of GCSE</p> <ul style="list-style-type: none"> • Core technical principles • Specialist technical principles • Designing and making principles <p>In addition:</p> <ul style="list-style-type: none"> • at least 15% of the exam will assess maths • at least 10% of the exam will assess science. <p>Questions:</p> <p>Section A – Core technical principles (20 marks) A mixture of multiple choice and short answer questions assessing a breadth of technical knowledge and understanding.</p> <p>Section B – Specialist technical principles (30 marks) Several short answer questions (2–5 marks) and one extended response to assess a more in-depth knowledge of technical principles.</p> <p>Section C – Designing and making principles (50 marks) A mixture of short answer and extended response questions</p>	<p style="text-align: center;">Non-exam assessment (NEA): 30–35 hours approx. 100 marks - 50% of GCSE</p> <p>Practical application of:</p> <ul style="list-style-type: none"> • Core technical principles • Specialist technical principles • Designing and making principles • Substantial design and make task <p>Assessment criteria:</p> <ul style="list-style-type: none"> • Identifying and investigating design possibilities • Producing a design brief and specification • Generating design ideas • Developing design ideas • Realising design ideas • Analysing & evaluating <p>Contextual challenges to be released annually by AQA on 1 June in the year prior to the submission of the NEA</p> <p>Students will produce a prototype and a portfolio of evidence, Work will be marked by teachers and moderated by AQA</p>

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Year 11 (Design and Technology)

Year 11	AUTUMN		SPRING		SUMMER	
	NEA – Generating design ideas	NEA – Developing design ideas	NEA – Realising designs	NEA – Analysing and evaluating	Exam preparation	
<p>Declarative <i>What should they know?</i></p>	<p>The knowledge, understanding that all students must develop are separated into:</p> <ul style="list-style-type: none"> • Core Technical principles • Specialist Technical principles • Designing and making principles <p>All content has been covered to this point and therefore knowledge is being revisited regularly from all areas of the specification. Alongside the creation of Design and Technology portfolio.</p>					
<p>Procedural <i>What should they be able to do?</i></p>	<p>Throughout the course of NEA task being completed this term (having been started at the end of Summer 2) there are a number of key knowledge areas that students will have to apply to their learning and evidence in a portfolio of work including in:</p> <p>Core technical principles: New and emerging technologies, Energy generation and storage, Developments in new materials, Systems approach to designing, Mechanical devices, Materials and their working properties.</p> <p>Specialist technical principles: Selection of materials or components, Forces and stresses, Ecological and social footprint, Sources and origins of materials, Using and working with materials, Stock forms, types and sizes, Scales of production, Specialist techniques and processes, Surface treatments and finishes, Materials (Relevant to NEA task being completed)</p> <p>Designing and making principles: Investigation, primary and secondary data, Environmental, social and economic challenge, The work of others, Design strategies, Communication of design ideas, Prototype development, Selection of materials and components, Tolerances, Material management, Specialist tools and equipment, Specialist techniques and processes</p> <p>The project aims to let students not just to demonstrate their knowledge and understanding of Design and Technology but also to enable them with the skills to work independently, decision making and analytical thinking, making choices that impact on themselves and others.</p> <p>Students must demonstrate skills in applying the above knowledge to the six assessment areas;</p> <ul style="list-style-type: none"> • Researching and investigating (A) 			<p>As well as exploring a range of revision strategies and techniques in Design and Technology students will be looking at developing their ability to answer a range of examination questions and question styles including how to answer:</p> <ul style="list-style-type: none"> • Section A - A mixture of multiple choice and short answer questions assessing a breadth of technical knowledge and understanding • Section B - Several short answer questions (2–5 marks) and one extended response to assess a more in-depth knowledge of technical principles • Section C - A mixture of short answer and extended response questions. <p>Preparations to also include:</p> <ul style="list-style-type: none"> • Extended writing • Competing tables and graphs • Descriptive writing • Revision techniques • Reading questions <p>Sketching and designing</p>		

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	<ul style="list-style-type: none"> • Writing a design brief and specification(B) • Generating ideas (C) • Developing ideas (D) • Realising an idea – making/manufacturing skills - (E) • Reflecting and evaluating (F) 				
Disciplinary Literacy (Tier 3 Vocab)	<p>Specific Tier 3 Vocab covered through this part of the academic year and in relation to NEA tasks includes:</p> <ul style="list-style-type: none"> • Scenario • Brief • Analyse • Client profile • Ergonomics • Anthropometrics 	<p>Specific Tier 3 Vocab covered through this part of the academic year and in relation to NEA tasks includes:</p> <ul style="list-style-type: none"> • Technical • Working properties • Prototype • Continuous improvement 	<p>Specific Tier 3 Vocab covered through this part of the academic year and in relation to NEA tasks includes:</p> <ul style="list-style-type: none"> • Schematic diagram • Lean manufacturing • Construction 	<p>Specific Tier 3 Vocab covered through this part of the academic year and in relation to NEA tasks includes:</p> <ul style="list-style-type: none"> • Evaluate • Modification • Market pull • Functionality • Ethics <p>Ecological</p>	<p>During this term students will be introduced to key command words as used in AQA written examination papers.</p> <p>Examples are:</p> <ul style="list-style-type: none"> • Apply • Calculate • Consider • Identify • Justify • Outline • Describe <p>Evaluate</p>
Assessment	<p>At the start of the autumn term students will complete a baseline assessment</p> <p>Key Assessment Piece: Classwork piece – NEA Section C: Producing Design Ideas (20 Marks) initial submission.</p>	<p>College Entry Mock examination: Students will have a Mock exam during the exam window for Year 11 students.</p> <p>Key Assessment Piece: classwork piece – NEA Section D: Developing Design Ideas (20 Marks) initial submission.</p>	<p>Classwork piece – NEA Section E: Realizing Design Ideas (20 Marks) initial submission.</p> <p>Key Assessment Piece: NEA Submission – Section F (Reflecting and Evaluating) Reviews of their NEA projects will form part of this assessment to ensure teacher feedback can be provided prior to final submission.</p>	<p>NEA Deadline</p> <p>Spring Mock examination: Students will have a Mock exam during the exam window for Year 11 students.</p> <p>Key Assessment Piece: Classwork piece – Section B/C exam question: Energy generation and storage</p>	<ul style="list-style-type: none"> • Classwork piece – Section B/C exam question: Ecological and social footprint, Sources and origins of materials • Classwork piece – Section B/C exam question: Specialist techniques and processes