GCSE Examiners' Report

Design and Technology

GCSE

Summer 2025

Introduction

Our Principal examiners' report provides valuable feedback on the recent assessment series. It has been written by our Principal Examiners and Principal Moderators after the completion of marking and moderation, and details how candidates have performed in each unit.

This report opens with a summary of candidates' performance, including the assessment objectives/skills/topics/themes being tested, and highlights the characteristics of successful performance and where performance could be improved. It then looks in detail at each unit, pinpointing aspects that proved challenging to some candidates and suggesting some reasons as to why that might be.[1]

The information found in this report provides valuable insight for practitioners to support their teaching and learning activity. We would also encourage practitioners to share this document – in its entirety or in part – with their learners to help with exam preparation, to understand how to avoid pitfalls and to add to their revision toolbox.

Further support

Document	Description	Link
Professional Learning / CPD	WJEC offers an extensive programme of online and face-to-face Professional Learning events. Access interactive feedback, review example candidate responses, gain practical ideas for the classroom and put questions to our dedicated team by registering for one of our events here.	https://www.wjec.co.uk/home/professional-learning/
Past papers	Access the bank of past papers for this qualification, including the most recent assessments. Please note that we do not make past papers available on the public website until 12 months after the examination.	Portal by WJEC or on the WJEC subject page
Grade boundary information	Grade boundaries are the minimum number of marks needed to achieve each grade. For unitised specifications grade boundaries are expressed on a Uniform Mark Scale (UMS). UMS grade boundaries remain the same every year as the range of UMS mark percentages allocated to a particular grade does not change. UMS grade boundaries are published at overall subject and unit level. For linear specifications, a single grade is awarded for the subject, rather than for each unit that contributes towards the overall grade. Grade boundaries are published on results day.	For unitised specifications click here: Results, Grade Boundaries and PRS (wjec.co.uk)

[1] ***Please note that where overall performance on a question/question part was considered good, with no particular areas to highlight, these questions have not been included in the report.***

Exam Results Analysis	WJEC provides information to examination centres via the WJEC Portal. This is restricted to centre staff only. Access is granted to centre staff by the Examinations Officer at the centre.	Portal by WJEC
Classroom Resources	Access our extensive range of FREE classroom resources, including blended learning materials, exam walk-throughs and knowledge organisers to support teaching and learning.	https://resources.wjec.co.uk/
Bank of Professional Learning materials	Access our bank of Professional Learning materials from previous events from our secure website and additional pre-recorded materials available in the public domain.	Portal by WJEC or on the WJEC subject page.
Become an examiner with WJEC.	We are always looking to recruit new examiners or moderators. These opportunities can provide you with valuable insight into the assessment process, enhance your skill set, increase your understanding of your subject and inform your teaching.	Become an Examiner | WJEC

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Executive Summary

The 2025 GCSE examinations in *Engineering Design*, *Fashion & Textiles*, and *Product Design* revealed a varied landscape of student performance, with notable strengths, persistent challenges, and emerging concerns across both examined and non-examined components.

Engineering Design

The written paper assessed core engineering principles including mechanics, control systems, manufacturing, and materials. While well-prepared candidates scored over 60/100, a significant number failed to attempt entire sections, indicating gaps in preparation and understanding. The continued decline in student uptake since 2024 raises concerns about engagement with STEM-based Design & Technology, calling for renewed focus on curriculum relevance and learner support.

Fashion & Textiles

Candidate performance showed foundational strengths in fibre classification and environmental awareness. Low tariff recall questions were generally well attempted, and some candidates produced strong evaluative responses. However, widespread weaknesses included:

- Misinterpretation of command words
- Poor application of knowledge in unfamiliar contexts
- High rates of non-attempts
- Declining retention and technical understanding

These findings highlight the need for improved exam technique and deeper subject knowledge.

Product Design

The exam was well received and broadly aligned with previous series. Candidates performed well in sustainability, user feedback, rapid prototyping, and product analysis. However, challenges persisted in:

- Legislative and Fairtrade-related questions
- Workshop practice and health & safety
- Technical knowledge of tools and processes

Written communication issues also continued, with poor handwriting and grammar affecting clarity. The weakest responses were consistently linked to workshop-based questions, suggesting a disconnect between theory and practical experience.

Non-Examined Assessment (NEA)

The NEA requirements are well established in most WJEC centres, with Product Design having the largest cohort. Moderation visits identified administrative issues, particularly around DT2 candidate marksheets, which must be fully authenticated for all entries. Inaccuracies in applying assessment criteria remain a significant concern, with some centres awarding marks from incorrect bands—sometimes two bands adrift—impacting candidate outcomes.

Following moderation:

- Most marks were deemed fair
- 19% of Product Design centres received negative adjustments
- A small number of adjustments were made in Fashion & Textiles
- Entire entries were moderated in cases of inconsistent assessment

Despite these issues, many candidates produced high-quality, creative work with well-structured portfolios. However, disorganised or incomplete submissions pointed to time management challenges. The iterative design process — 'think, test, evaluate, rethink'— remains underdeveloped in many centres.

The increasing use of Artificial Intelligence (AI) in NEA submissions requires careful management. JCQ guidelines stress that AI-generated content cannot be credited as original candidate work. Authenticity and individual design journeys must be preserved, from identifying a design opportunity to delivering a functioning prototype. Teacher-led approaches, while supportive, can limit creativity and undermine the NEA's objectives.

GCSE DESIGN AND TECHNOLOGY

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GCSE ENGINEERING DESIGN – UNIT 1

Overview of the Unit

The GCSE Engineering Design examination assessed candidates' understanding of core engineering concepts, their problem-solving abilities, and how effectively they could apply theoretical knowledge to real-world contexts. The paper included topics such as mechanics, computer control systems, manufacturing processes, and materials, reflecting the depth of knowledge outlined in specification section 2.1.2. Since 2024, there has been a significant decline in the number of students taking the course, prompting concern over the diminishing interest in STEM-based Design & Technology.

Candidates who were well-prepared for Unit 1 achieved over 60 out of 100 marks. However, a worrying trend emerged where some students failed to attempt entire questions or sections. This highlights issues with preparation and understanding of the specification's content. It suggests the need for further guidance and emphasis on core engineering knowledge to ensure learners are equipped to succeed in future assessments.

Comments on individual questions/sections

Question 1 assessed knowledge of primary/secondary research methods and understanding of anthropometrics and ergonomics. While most attempted this question, many responses showed confusion between research types and a limited grasp of human factors.

(a) & (b) Many candidates showed limited understanding of the difference between primary and secondary research methods. A significant proportion could not state nor explain different methods of primary research. Strong responses gave clear, contextual examples (e.g., "conducting interviews", "using a website") and explained why each method was appropriate.

(c) There was limited understanding of anthropometrics and ergonomics. Few candidates accurately explained how these are used in the design process. Responses often confused the two terms or did not demonstrate understanding of the terms communicated. Successful candidates related dimensions or human interaction to user comfort and safety effectively.

Question 2 tested recall of the 6Rs and ability to analyse a product in terms of sustainability. Just over half recalled some of the 6Rs; fewer could prioritise them or apply them effectively in analysis.

(a) & (b) Roughly half of candidates could recall some of the 6Rs, though many failed to name both. Explanations of the priorities of the 6Rs lacked depth. Higher-scoring responses described why particular Rs (e.g., Reduce or Reuse) are more impactful than Recycle.

(c) Most candidates struggled to analyse a product from a sustainability perspective. While some discussed advantages well (e.g., secondary reuse), few demonstrated understanding of disadvantages (e.g., manufacturing energy use). Responses lacked balance, and analysis was often superficial.

Question 3 was the most accessible question to candidates from the data which showed a facility factor of 51.9. This question covered smart materials, their use, and product analysis of fixture components. Candidates demonstrated fair understanding of smart materials; analysis of fixtures was weaker.

(a), (b)(i) & (ii) Candidates generally showed a fair understanding of smart materials and their applications. Most could identify materials such as thermochromic or shape memory alloys, with many describing how they function effectively. Successful answers included relevant products and explained performance benefits.

(c) (i) Analysis of product fixtures was often underdeveloped. Many candidates did not explain how components were joined or fixed. Stronger answers identified fasteners or bonding techniques, but few provided reasoning.

(ii) This section required applying knowledge to a scenario. Candidates who succeeded gave specific materials and justified their choices. Weaker answers listed features without linking them to product performance.

Question 4 Data from this question showed it was the least accessible, with a facility factor of 29.6 – Demonstrated a need to develop written communication skills for questions that are worth higher marks. It also highlighted that there was a lack of understanding of block diagrams and design systems which included the positive and negative factors of using PICs in circuits and products.

(a) There was a general lack of knowledge about a chosen designer and company or their products. Many scored less than half marks. A few well-prepared candidates demonstrated depth in their understanding of product and company ethos, product impact, or design principles.

(b)(i) & (ii) Candidates struggled with block diagrams and feedback systems. A significant number failed to label diagrams or name any engineering components, despite the question introduction listing them. Where correct diagrams were provided, they lacked clear explanation of signal flow or feedback function.

(c) (i) About half of the candidates could describe the advantages of using a PIC (Programmable Integrated Circuit) in a product. Common responses included "compact size" or "programmable features".

(ii) Very few candidates could describe disadvantages. Common gaps included cost, complexity, or the need for programming skills. This limited the number of high-level responses.

Question 5 focused on riveting, corrosion protection, polymer properties, and metal joining methods. There was a high non-attempt rate for specific questions particularly those worth 5 marks and there was a concerning number of non-attempts for the full sections.

(a) (i) There were very few accurate explanations and/or sketches of the riveting process. Responses lacked technical detail, sequence, or relevance to engineering manufacturing. Only a small number of candidates showed logical understanding of the process. A common mistake was to explain the use of a nut and bolt rather than a rivet.

(b) (i) Roughly half of the candidates understood reasons for protecting ferrous metals (e.g., corrosion resistance). Strong responses linked this to product longevity.

(ii) Knowledge of polymer properties was limited. Many gave vague or generic answers (e.g., "plastic is strong") without specifying types or properties like toughness or flexibility. Successful candidates linked properties to the product's application and function.

(c) While some candidates accessed marks, most responses lacked the necessary detail to go beyond basic points. Answers were generalised and did not show full understanding of processes or materials.

(d) Few candidates achieved full marks. Many only referred to temporary fixings and did not consider permanent alternatives. Stronger answers discussed a range of joining techniques, including mechanical and adhesive methods.

Question 6 covered mechanical advantage, moments, levers, cams, and CAD/CAM components. This question saw the widest spread in marks with a standard deviation of 6.3 marks. This indicated inconsistent understanding across mechanical and CAD sections. Many candidates skipped parts of this question resulting in the performance varying significantly.

(a) (i) Many candidates correctly identified the "Load" and "Effort" of second-class levers and showed good recall.

(ii) Few could explain mechanical advantage in third-class levers. Common misunderstandings included the position of effort and load. Strong responses referenced the effort arm being shorter than the load arm, resulting in no advantage.

(b) (i) A small number of candidates were able to calculate using the principle of moments. Those who succeeded applied the formula correctly and laid out calculations clearly.

(ii) Many candidates could explain the term "tolerance", often in the context of manufacturing accuracy or acceptable limits.

(c) (i) Few candidates showed understanding of cam motion. Many failed to explain that the follower would rise, dwell, and fall. Strong responses described a full rotation using correct terminology.

(ii) About half of candidates accessed marks in designing a cam system, though few earned full marks. Diagrams often lacked detail or labelled motion stages.

(iii) Most candidates recalled an appropriate illumination component, such as an LED or lamp.

(iv) Low numbers explained laser cutting/engraving functions in CAD/CAM. Many misunderstood the difference between engraving depth and cutting accuracy.

(v) Those who attempted the circuit diagram generally earned at least one mark, though full marks were rare. Incomplete or incorrectly wired circuits were common.

General Observations

- A growing number of candidates did not attempt entire sections or parts of questions (especially in Q5 and Q6).
- Many responses lacked depth, even when correct in principle.
- Core knowledge areas such as materials, systems, and manufacturing processes require further reinforcement.
- Candidates who structured their answers clearly and supported responses with technical terms consistently scored higher.

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GCSE FASHION & TEXTILES – UNIT 1

Overview of the Unit

The 2025 Fashion and Textiles examination paper followed the established format in style, structure and demand. It covered a wide range of topics across the specification and included a range of questions - from simple recall to more complex, extended responses requiring detailed knowledge and application. Many of the weaknesses are consistent with past series and have been highlighted in previous reports.

The overall candidate performance in this examination demonstrated a few notable strengths alongside significant areas for improvement.

Strengths

- Candidates generally demonstrated a foundational understanding of core textile principles and techniques. Fibre classification was a relative strength - especially synthetic fibres. Most demonstrated a reasonable understanding of environmental issues.
- Most candidates attempted low tariff, recall questions, reflecting better engagement with accessible content. In areas requiring application of knowledge, a minority of candidates performed quite well. High scoring responses effectively referenced relevant examples and demonstrated a sound understanding of the context for each question.
- Well-constructed evaluative and analytical responses were evident in a few AO3 questions, with candidates providing reasoned appraisals supported by appropriate evidence and examples.

Areas for improvement

- Despite the positives, the examination revealed a widespread lack of technical knowledge and subject-specific understanding. A recurring issue was the failure of many candidates to carefully interpret and respond to the precise demands of the question with many overlooking key terms or command words. This led to descriptive rather than evaluative answers, and in some cases, responses did not directly address the question.
- Application of knowledge in unfamiliar contexts was challenging for a significant proportion of candidates, with many responses lacking depth, clarity, and justification. Confusion between related concepts and terminology was evident, negatively impacting accuracy and comprehension. Basic subject principles were frequently misunderstood or omitted, affecting performance on more demanding questions.
- High rates of non-attempts in certain areas suggest significant gaps in confidence, knowledge and preparation. Moreover, some candidates struggled to manage the complexity of questions, either by providing overly complicated or vague responses.
- Compared to previous assessments, the overall trend points to a decline in both retention and effective application of essential knowledge, emphasising the need for improved focus on technical understanding and question interpretation skills.

Comments on individual questions/sections

Question 1
This was the second most accessible question on the paper, that said the mean mark was still below half marks, but it did at least have a reasonable attempt rate. This question gives an early indication of the low-level performance across all questions.

This question was about decorative techniques commonly used in a school environment and what candidates should be familiar with. Knowledge and understanding appeared much weaker when compared to similar themed questions in previous series.

In part (a), most candidates demonstrated a basic understanding of silk painting, though many failed to identify it as a resist method. In (ii) the strongest responses clearly outlined the batik process in at least three clear stages, while others omitted key steps or were unfamiliar with the process resulting in lower marks. In (iii) although many gave valid reasons for fixing fabric paint, a significant number gave incorrect responses, highlighting a worrying gap in understanding of a fundamental textiles concept.

Part (b) highlighted the need for careful reading, as many candidates overlooked the requirement to discuss *creative* use of the laser cutter, instead, described its basic function. Consequently, few achieved full marks. More broadly, responses suggest significant gaps in subject specific technical knowledge - while many can recall facts in low tariff questions, they struggle to apply knowledge in less familiar contexts.

Question 2
This was the most accessible question on the paper although the mean mark was still below half marks. A few candidates did not attempt this question.

The question was about the classification of fibres, their properties and environmental impact.

A common misconception in part (a) was classifying silk as an animal fibre; the correct answer is angora, from the Angora rabbit, while silk is produced by insects. Other fibres were generally placed correctly. In part (b) many candidates showed weak fibre knowledge, impacting their performance in this recall-based question. In (i) candidates often misinterpreted the question, describing fibre sources rather than describing a fibre in general terms, with many responses unnecessarily complex. Part (ii) was challenging with several non-attempts and frequent confusion between regenerated and recycled fibres, though understanding of synthetics fibres was generally better.

(c) As an AO3 question with the command word analyse, responses should demonstrate clear reasoning supported by evidence. Instead, many candidates merely described synthetic materials, their source and production neglecting the key issue: *environmental impact following <u>disposal</u>.* This reflects the ongoing need for candidates to interpret questions more thoughtfully.

Question 3
The mean mark for this question was also below half marks but had a reasonably good attempt rate. The context of the question was the natural world as a source of inspiration.

(a) Most candidates understood the principles of micro-encapsulation and thermochromic dyes, but many struggled to explain their purpose within the given contexts. Full mark responses clearly linked function to appropriate applications.

Part (b) which focused on nature's influence on design, challenged many candidates as it required application of knowledge rather than simple recall. In (i), some candidates were unfamiliar with the term *biomimicry.* In (ii), stronger responses offered clear, detailed explanations with relevant examples - such as the development of Velcro - while weaker answers lacked depth or were left blank. In (iii), high scoring candidates demonstrated a strong understanding of Orla Kiely's work, referencing the natural landscapes and earthy tones of her Irish homeland, while others gave vague or speculative responses.

Question 4

This was one of the least accessible questions on the paper, with a mean mark well below half marks. Focusing on technological developments in fashion and textiles, it required candidates to apply their knowledge and understanding to a range of different contexts, resulting in a generally weak performance overall. There were obvious gaps in candidate knowledge. Some did not attempt this question.

(a) (i) Responses were mixed. Candidates who correctly focused on the rechargeable feature and addressed the question directly scored higher marks. However, many misunderstood the focus, discussing the appeal of the LED beanie hat instead. This reflects a recurring issue: failing to fully consider the question before answering. (ii) Many candidates showed limited understanding of the concept of *technology push* and its role in developing new products or improving existing ones. In contrast, those who grasped the term performed well and achieved high marks.

(b) As AO3 questions with the command word *evaluate*, responses should demonstrate clear appraisal supported by evidence. However, many responses were descriptive rather than evaluative, and there were several non-attempts. (i) Well written responses, that demonstrated clear appraisal, supported by appropriate examples scored the highest marks. These responses fully addressed the key points of the question. (ii) The focus of this question was *integrated* technology, but a significant number of candidates overlooked the key term *integrated*, which was central to the question. This highlights the ongoing issue of candidates not reading and interpreting all elements of the question carefully, affecting the accuracy and relevance of their responses.

Question 5

This question was among the least accessible on the paper, evidenced by a mean mark significantly below half marks. It required specific technical and legislative knowledge and included low and high tariff questions. A high rate of non-attempts suggested that many candidates lacked the required knowledge or confidence.

In part (a), a common theme across the paper was evident - a general lack of technical understanding. Questions (i) to (iv) assessed recall of basic manufacturing processes, yet many candidates struggled to provide correct responses.

(b) The main issue with this question was, once again, a lack of subject knowledge. However, part (i) which focused on Fair Trade values, was generally better received by candidates than part (ii) which covered BSI standards.

Question 6

This was the least accessible question on the paper with a mean mark marginally above 25% of available marks. Technical knowledge was very weak which inevitably meant candidates could not answer the questions. Several candidates did not attempt this question.

In parts (a) and (b), a recurring issue across the paper was apparent - a general lack of technical understanding, with many candidates struggling to provide accurate responses. Few were able to correctly identify the two style details on the costume, explain the process of gathering fabric, (often confusing it with tucks or pleats), or describe how the checks in gingham are formed.

In part (b)(iii) while some candidates showed a degree of knowledge, the question assessed AO3 skills, and most failed to demonstrate clear reasoning or justification.

In part (c), many candidates were unfamiliar with the term *planned obsolescence*, which significantly limited their ability to engage with the question.

Candidates need to be taught the content of the specification, systematically and thoroughly throughout the duration of the two-year course. They must also become familiar with the style of examination questions and learn how to respond effectively to maximise their marks. A comprehensive range of online resources is available to support future candidates in preparing for the written examinations.

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GCSE PRODUCT DESIGN – UNIT 1

Overview of the Unit

The 2025 Product Design examination seems to have been well received. The evidence available suggests that the paper was a fair test for the candidates sitting the exam, in line with previous years. As ever, every attempt is made during the exam production process to make the examination accessible to all candidates, and in line with the exams set in previous series. The mean mark for this year's exam was 40%, up slightly on previous years. However, unlike previous years no question on the exam achieved a 100% attempt rate. The exam was designed to test the breadth of the specification and there is now a clear pattern of questions that require the candidates to describe or recall their workshop practice and experience, eliciting weak responses that lack depth. Written communication was also poor; with the trend of poor handwriting, spelling, punctuation, and grammar continuing; resulting in some very difficult to read papers. It is pleasing to note however that questions requiring the candidates to analyse products are now familiar to candidates who can identify reasons for material and component choices, production methods, and systems, and any features successfully.

Areas that were answered well with good detail demonstrating a depth of knowledge were

- Sustainable issues, Q1(a), (c), Q4(a), (d)
- User feedback design questions and rapid prototyping Q2(a), (b), Q5(c)
- Product analysis questions and identifying properties, Q3(a)(i)(ii), (c), (d), (e) and Q5(b).

Areas of the exam that caused candidates issues were

- Any questions about legislative issues Q2(c), (d) Q4(c)
- Fairtrade Q1(a) and (b) were hit and miss and could be judged very much on a centre-by-centre basis.
- Q3(b) was poor across the board and the worst mean mark on the paper by a distance.

However, the pattern of questions about workshop practice and experience continue to be very disappointing and an area that needs improvement.

- Q5(b) Health and Safety in the workshop
- Q6(c) and (d) sizes of nuts and bolts and drilling a counterbore

Comments on individual questions/sections

The review of the individual questions that follows is indicative of the candidates' work viewed. While some candidates were able to access large parts of the exam, more were not, evidenced by the paper's mean mark of 40%.

As in every other series for this specification the paper is ramped, so questions are designed to get more difficult as each question and the paper progresses. Questions throughout the exam require candidates to evaluate and analyse products and materials across a range of different contexts. It was apparent however that a larger proportion than anticipated of some candidates struggled to apply the knowledge and experience they had gained in a school environment to apply it to an examination context.

Question 1- (Mean mark **47%**) was the highest on the paper, and the opening question was most accessible on the paper.

Parts (a) and (c) were about sustainability, recognising which of the 6Rs the designers had used when redesigning the shoe box and the new packaging ecological footprint. Candidates' responses for these questions were detailed and appropriate with most candidates seen being able to access at least 2 marks for this question, proving that candidates are well versed in this area of the specification.

Part (b) caused more problems; with some candidates unable to identify the Fairtrade logo and then struggled to identify the importance of Fairtrade to the consumers.

Question 2 – (Mean mark **45.2%**) This question saw one of the highest attempt rates on the paper, and the question as a whole drew the second highest mean mark, despite there being some confused responses from some candidates to the questions about legislative issues further into the question.

Responses to the opening parts of the question ((a) and (b)) were generally well written with sufficient detail to get at least three or four marks from across the two questions. Much like Q1 parts (a) and (c), it demonstrates that the candidates now have a clear understanding of why designers use CAD and produce prototypes and feel at ease explaining the reasons why this happens.

The latter parts of the question parts ((c) and (d)) were questions about legislative issues, namely the CE mark and the Consumer Rights Act. Whilst part (c) was better answered than part (d), responses still lacked detail. Most were limited to statements about safety or the CE mark being a safety mark; "making the Kitchen product safer" was a popular response. Virtually no candidate referred to products carrying the CE mark meeting environmental protection requirements. Responses to part (d); consumer rights act, were either good or really poor and could be judged on a centre-to-centre basis. Responses from some centres almost unanimously stated that; it protects the consumer by making sure that goods are of a high quality, fit for purpose and not mis-sold, protecting the consumer by allowing them a refund or return should there be an issue. From other centres, candidates' responses were limited to basic statements about safety or candidates offered no response.

Question 3 – (Mean mark **41.8%**) Question 3 can be split into two halves. Most candidates are now familiar and well-practiced in answering questions requiring them to do a product analysis that identifies; suitable materials, why certain components have been used and the type of production system used to produce the products. Responses to parts (a), (c), (d) and (e) prove this to be the case and the level of detail viewed in candidates' responses to all of these parts prove this point and can be viewed as one of the biggest positives of this year's paper. However, part (b) saw very few candidates correctly identify the Polystyrene symbol which in turn made it difficult for candidates to describe why that material was suitable for the legs of the tripod. Thus, meaning the vast majority of candidates scored 0 marks for this part of the question; they then missed out on almost $1/5^{th}$ of the marks for that question, dragging the mean mark down drastically.

Question 4 – (Mean mark **40.3%**) Attempt rates for each question start to dip a little from question 4 on; the mean mark is the third lowest on the paper. There is some evidence within this question that more candidates than usual failed to read and understand the questions. Many responses that required explanation or an analysis of a situation were often too brief and lacked depth and all too often were one-sentence answers to questions worth 4 marks (parts (b) and (c)). This limits the marks the candidates can be awarded for each response and is in part an explanation for such a low overall mean mark for this question. Parts (a) and (d) were questions that had a foundation in sustainable issues and as candidates proved in Question 1, they are now well practised in answering this type of question and most made a good attempt to identify more than one point with some detail.

Question 5 – (Mean mark **33.9%**) This was the question with the lowest attempt rate and the lowest average mark on the paper. All sections of this question required extended writing in some form. QWC was assessed in part (c). Historically, when the paper contains a 10-mark QWC question coupled with other 5-mark question, candidates seem to flounder. The question really tested the candidates' analytical thinking and evaluation skills when asking about the performance of composite materials in modern sports equipment. Candidates stated that composite materials were "durable" or "hard wearing" but could come up with few reasons beyond that. Part (c) was the best answered part of question 5 with candidates able to identify at least two or three reasons why user feedback is critical when developing creative products. However, the candidates' inability to expand on the reasons limited the marks that could be awarded for the QWC question.

Far and away the part of the question that has caused candidates the most issues was part (b). When you consider the question is asking why Health and Safety in a School workshop is important, this is an alarming and disappointing observation but is part of a trend that we have seen in previous series when school workshop practices have been examined. The responses seen highlighted candidates' inability to form constructive and objective responses about parts of the specification that should be straightforward for them to compose answers for. Candidates struggled to gain more than 2 marks for this section of the question.

Question 6 – (Mean mark **35.4%**) The final question in this paper proved to be less accessible than expected, especially considering its context, a simple blister pack packaging - a product with which most candidates should have been familiar. Happily, when asked about the basics of the blister pack the majority of candidates were able to provide at least one reason PET could be considered suitable, with many offering two reasons, earning them at least 3 out of 4 marks. Most were able to identify what the term 'blister pack' meant and what the card layers were for. Similarly, many candidates gave at least one reason for the try me function and how it benefited the user or manufacturer, with some able to explain the benefit to both. This allowed them to score half marks or slightly above for part (b). However, the trend of candidates answering questions about school workshop experience poorly continued. Very few recognised what the term M4 meant, and the responses to the notes and sketches question highlighted the gaps in candidates' knowledge.

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GCSE NEA – UNIT 2

Overview of the Unit

The requirements of the non-examined task (NEA) are well established in most centres that examine through WJEC. Product Design has the largest cohort, far fewer are entered for Fashion and Textiles with a very small cohort entered for Engineering Design.
Moderation visits identified some administrative issues in both new and existing centres. Please note that all DT2 candidate marksheets are required to be fully authenticated for every entry, regardless of whether they are part of the sample. It is the responsibility of the teaching staff to ensure that marks are entered into the system accurately and correspond precisely with those recorded on the DT2 forms. During moderation week, team leaders and the Principal Moderator may also visit a centre. This is an internal quality assurance procedure and does not reflect on any individual centre.

Many issues outlined in this report have been raised before. A significant concern is the inaccuracies in applying the assessment criteria as it has a direct impact on candidate outcomes. This issue remains unaddressed in many centres.

Following external moderation, most centre marks were deemed accurate or fair. Some centres had their marks adjusted to align with the national standard, resulting in a reduction in marks. The banded assessment descriptors determine the correct band where the most appropriate mark should be awarded. Centres found to be generous across the sample and assessment strands, awarded marks from incorrect bands, sometimes two bands adrift of what the work deserved. Greater attention to descriptors is needed when assessing candidate work. In some centres where assessment was inaccurate or inconsistent the entire entry was moderated. This ensures that all candidates receive a fair and accurate assessment. In Product Design 19% of centres had negative adjustments applied to their marks. A small number of negative adjustments were also applied in Fashion and Textiles.

Many candidates produced high-quality, innovative and creative work with well-organised, iterative portfolios that showed clear pride in their NEA submissions in all three focus areas. However, some portfolios were disorganised or incomplete, highlighting possible time management issues for several candidates.

NEA submissions are expected to illustrate an iterative process, emphasising a cyclic approach of 'think - test - evaluate - rethink'. This involves developing, modelling, testing, and refining potential design ideas against a clearly defined design specification. This is still under-developed in many centres.

Artificial Intelligence (AI) is increasingly used by candidates, although there are clear guidelines regarding its proper use. While AI can help generate initial ideas or text, work that is created by AI cannot be credited as the candidate's own. JCQ has published guidance for centres: *AI Use in Assessments: Your role in protecting the integrity of qualifications.*

Candidates should take responsibility for their work and ensure it reflects their individual design journey. This process begins with identifying a realistic design opportunity and ends with a fully functioning prototype that meets the needs, wants and values of the intended users. Some NEA submissions were influenced by teacher direction, while others did not adopt an iterative approach. Teacher led approaches often limit design creativity and undermine the objectives of the non-examined assessment.

Comments on individual questions/sections

(a) Identifying design possibilities – 10 marks

This area was generally assessed fairly across most centres although the marks should reflect the relevance and quality of the work not its quantity. Centres should guide candidates to allocate time based on the marks available - 10 marks in this section equate to about 10% of their time. A lean and focused approach is recommended.

Identifying design opportunities is key to developing possible design briefs. Candidates may analyse any number of the three contextual challenges; this should not be pre-determined by centres. Marks should reflect the variety of problems identified. Focusing on a single issue or having a preconceived idea warrants a lower mark. Innovative solutions arise from recognising genuine problems; this approach should be applied across all three focus areas.

Research and investigation should prioritise quality and relevance over quantity to support idea development and a meaningful specification. The work of professionals or companies should only be considered where it is appropriate, as stated in the assessment criteria. Candidates should avoid using their work just to fill space. Mood boards should have a clear purpose rather than a random collection of images.

User needs, wants and values should be considered throughout the iterative process and is referenced in all assessment strands. Using celebrities is unrealistic. Engaging with real users or stakeholders is a far more effective means of understanding a problem. On-going dialogue with genuine users is better than generic questionnaires. This needs further consideration in some centres.

(b) Developing a design brief and specification – 10 marks

To achieve top marks, candidates should consider multiple problems, develop several design briefs, and choose a final brief after thorough research and analysis. Some centres followed this process, while others had candidates who chose their projects too early without exploring alternatives, limiting their potential marks. Centres should address this issue.

Design specifications should be based on thorough analysis of research, investigation and some early testing. However, some candidates provide generic ‘wish lists’ without referencing their research and include dimensions or costs without explaining how these numerical values were determined. A well-developed specification serves as an effective design tool that supports the evaluation of ideas as they develop. Few candidates use it in this way. A robust specification should also indicate how the finished product will be tested, which is essential when evaluating the success of the outcome. Specifications require refinement and further development in many centres.

Most centres assessed this strand fairly, but some awarded high marks to superficial work that deserved lower scores. Centres should refer to exemplar projects on the secure website to better understand the assessment criteria.

(c) Generating and developing design ideas – 30 marks

Centres that fully understood the iterative process achieved better results. Candidates there thoroughly modelled, tested, and refined their ideas, and included practical testing with proposed materials. This hands-on approach showed clear development and justified high marks.

Conversely, some centres over-rewarded candidates for minimal evidence of development. A few sketches alongside some CAD models for example is not indicative of an iterative design process. In Fashion and Textiles, a toile, a few seam constructions and /or a decorative technique, often completed as a class activity is not iterative either. This limited approach better reflects the descriptors in the lower assessment bands.

In addition to developing ideas, it is important to consider technical details related to materials, dimensions, finishes, and production techniques. Further development is needed here in many centres and for all three focus areas.

Every step of a candidate's design journey should be recorded. Design should be focussed, relevant and well-documented with clear evidence of analysis and evaluation of ideas, test pieces and models as ideas progress towards a final solution. The path to the final prototype should be evident. In many NEA submissions this journey was unclear.

Application of the assessment criteria for this section varied from mostly fair to over inflated and generous. Centres are reminded to carefully consider the assessment descriptors when applying marks and consult the exemplar NEAs for standardisation purposes when assessing work in future.

(d) Making a prototype – 30 marks

Assessment within this strand ranged from accurate and fair to overly inflated and generous. High marks were frequently awarded where the descriptors in the band below sometime two bands below would have been more appropriate. To justify awarding marks in band 3 and 4, there must be high levels of accuracy and precision in all aspects of construction, with careful attention to the quality of the finish. It is apparent that some centres do not fully understand the precise criteria required to award marks in the top bands.

Candidates must provide a logical sequence for manufacturing their prototype with enough detail for a third person to replicate. It should also include a defined timeline, address health and safety issues, identify constraints, and include reference to final testing. A pictorial diary of the manufacturing process is not required, as it is not mentioned in the assessment criteria. Overall manufacturing sequences require further refinement.

During moderation week many well-made, fully functioning innovative prototypes were seen. These outcomes which met objectives deserved marks in the top bands. Modern manufacturing techniques such as 3D printing are increasingly used alongside traditional methods, however Fashion and Textiles candidates are yet to fully embrace this technology. Skills demonstrated, and the quality and accuracy of outcomes showed significant variation. Several outcomes in all focus areas lacked finesse or were presented in a partial or incomplete state. There is a concern that non-specialist staff delivering this course can limit candidates' learning experiences.

(e) Evaluating a prototype's fitness for purpose – 20 marks

Candidates do not need to repeat the analysis and evaluation of ideas and design decisions within their summative evaluation as it should occur naturally alongside the development of ideas. In some centres, this aspect was not addressed because the candidate did not submit a summative evaluation.

The quality of summative evaluations varied significantly. This section is worth 20% of the overall mark therefore a substantial body of work is needed to secure marks in the top band. Marks were often generously awarded in this assessment strand. Summative evaluations frequently consisted of a brief reflection of the specification criteria with superficial references to testing, modifications and/or improvements. This approach is indicative of descriptors in bands 1 or 2 but were often awarded marks in higher bands. To award top marks, summative evaluations should critically appraise the design brief and specification, include views of users, provide evidence of end testing and further modifications. More robust specification criteria would aid candidates especially with testing against measurable standards.

Most centres need to give more attention to this assessment strand as it often seemed rushed, incomplete, or missing. Allocate sufficient time here since up to 20 marks are available.

Internal marking of NEA submissions

WJEC provides exemplar NEA projects on the secure website to help centres achieve accurate assessments. Centres are strongly advised to use this resource for standardisation to avoid mark adjustments. It is clear some centres are not utilising these exemplars. Centre reports give feedback on assessment accuracy following moderation. Internal standardisation between teachers and specialist areas is mandatory. However, some centres failed to implement this or did so ineffectively.

Supporting you

Useful contacts and links

Our friendly subject team is on hand to support you between 8.30am and 5.00pm, Monday to Friday.
Tel: **029 2240 4303**
Email: designandtechnology@wjec.co.uk
Qualification webpage: GCSE Design and Technology

See other useful contacts here: Useful Contacts | WJEC

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Please find details for all our courses here: https://www.wjec.co.uk/home/professional-learning/

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