

Pearson Edexcel Level 1/Level 2 GCSE (9-1) in Design and Technology (1DT0)

Component 2

Candidate Assessment Booklet (CAB)

Pearson Edexcel Level 1/Level 2 GCSE (9-1) in Design and Technology (1DT0/02)	
Centre name:	Centre number:
Candidate name:	Candidate number:
Contextual challenge:	
Year of examination:	

Teacher declaration

I declare the work submitted for assessment has been carried out without assistance other than that which is acceptable according to the rules of the specification.

Assessor name:			
Assessor signed:		Date	

Candidate declaration

I certify that the work submitted for this assessment is my own. I have clearly referenced any sources used in the work. I understand that false declaration is a form of malpractice.

Candidate signed:		Date:	
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Additional candidate declaration

By signing this additional declaration you agree to your work being used to support professional development, online support and training of both centre-assessors and Pearson moderators. If you have any concerns please email: dt.eng@pearson.com

Candidate signed:		Date:	
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You must complete this Candidate Assessment Booklet (CAB) for each candidate.

Project submission

- The project consists of a portfolio and a prototype.
- The teacher responsible for overseeing the candidate's work must ensure that this booklet is completed for each candidate.
- The teacher and candidate **must** authenticate the work submitted by completing the declaration on the front page.
- The portfolio and CAB for each candidate in the sample **must** be sent by the date published in the Information Manual. This date will normally be in May of each examination year.

Photographic evidence of completed outcomes

Photographic evidence of manufacture and completed outcome(s) for the make section must be included in each candidate's portfolio and the same photo for the completed outcome(s) must be included on the next page. The quality of the photography must be sufficient to enable moderators to see the completed prototype clearly and in detail.

Teacher annotation

Each CAB should include teacher annotation indicating where the marks for each assessment criterion have been awarded, this should be page referenced to the candidate's folder.

Comments relating to assistance given to the candidate and the authenticity of their work should be included in the teacher comments section of the tables. If the candidate needed to use specialist equipment or facilities outside of school/college then this should be recorded in the teacher comments section of the tables also.

How to apply the assessment criteria

Finding the right level

The first stage is to decide which level the evidence should be placed in. To do this, use a 'best-fit' approach, deciding which level most closely describes the quality of the evidence. Where evidence displays characteristics from more than one level you must use the guidance below and your professional judgement to decide which level is most appropriate. Each descriptor in each level relates to a different skill(s). It is important to consider all of the skills equally when determining the correct level. Please note that a bullet (and its descriptor) does not relate to a 'mark' within a band. Please see below for further guidance.

Placing a mark within a level

After a level has been decided on, the next stage is to decide on the mark within the level.

You should be prepared to use the full range of marks available in a level and not restrict marks to the middle. You should start at the middle of the level (or the upper-middle mark if there is an even number of marks) and then move the mark up or down to find the best mark. To do this, you should take into account how far the evidence meets the requirements of the level:

3 or more marks in a level

- If it meets the requirements fully, you should be prepared to award full marks within the level. The top mark in the level is used for evidence that is as good as can realistically be expected within that level.
- If it only barely meets the requirements of the level, you should consider awarding marks at the bottom of the level. The bottom mark in the level is used for evidence that is the weakest that can be expected within that level. Alternatively, be prepared to drop the mark to the top of the band below.

- The middle marks of the level are used for evidence that has a reasonable match to the requirements. This might represent a balance between some characteristics of the level that are fully met and others that are only barely met. In instances where there are two or more middle marks (e.g. levels containing 4 or more marks) the upper middle marks should be awarded for evidence that displays more characteristics towards fully meeting the criteria. The lower middle marks should be awarded for evidence that displays more characteristics towards barely meeting the criteria.

2 marks in a level

- If it meets the requirements fully, you should be prepared to award full marks within the level. The top mark in the level is used for evidence that is as good as can realistically be expected within that level.
- If it partially meets the requirements of the level, you should consider awarding marks at the bottom of the level. The bottom mark in the level is used for evidence that is the weakest that can be expected within that level.

Grids with uneven mark distributions

In some grids, a greater number of marks are placed within the middle and/or upper bands than the lower bands. In such instances, you must follow the relevant guidance above relating to placing a mark in a level. For example, where the lower level contains 2 marks apply the '2 marks in a level' guidance and middle and/or upper levels contain 3 marks apply the '3 or more marks in a level' guidance.

Images of completed outcome(s)
Please use page 15 for additional images

Assessment criteria

1 Investigate						
Level	Mark	1.1 Investigation of needs and research (AO1 8 marks)	Evidence found on page	Teacher comments	Mark awarded	Pearson use only
	0	No rewardable material.				
Level 1	1-3	<ul style="list-style-type: none"> Evidence of limited investigation and identification of partially relevant design possibilities, which are partially justified in relation to the contextual challenge. Basic assessment of user needs and wants and the requirements of the prototype in response to the contextual challenge, with limited appropriate reference to form and function. Superficial evidence of links between the design requirements and the research undertaken in relation to the contextual challenge. 				
Level 2	4-6	<ul style="list-style-type: none"> Evidence of adequate investigation and identification of some relevant design possibilities, which are mostly justified in relation to the contextual challenge. Mostly developed assessment of user needs and wants and the requirements of the prototype in response to the contextual challenge, with some appropriate reference to form and function. Some developed evidence of links between the design requirements and the research undertaken in relation to the contextual challenge. 				
Level 3	7-8	<ul style="list-style-type: none"> Evidence of developed investigation and identification of relevant design possibilities, which are fully justified in relation to the contextual challenge. Developed assessment of user needs and wants and the requirements of the prototype in response to the contextual challenge, with fully appropriate reference to form and function. Fully developed evidence of links between the design requirements and the research undertaken in relation to the contextual challenge. 				
					/8	

1 Investigate (continued)						
Level	Mark	1.2 Specification (AO1 8 marks)	Evidence found on page	Teacher comments	Mark awarded	Pearson use only
	0	No rewardable material.				
Level 1	1-3	<ul style="list-style-type: none"> • Basic design brief that demonstrates a simplistic response to the contextual challenge, addressing some of the investigated needs and wants of the user. • Limited range of specification points that are basic and partially measurable, based on a superficial investigation of research in relation to the contextual challenge. • Basic justification of the performance requirements for the product in relation to the contextual challenge. 				
Level 2	4-6	<ul style="list-style-type: none"> • Generally sound design brief that demonstrates a coherent response to the contextual challenge, addressing many of the investigated needs and wants of the user. • Mostly developed range of specification points that are realistic and mostly measurable, based on a mostly relevant investigation of research in relation to the contextual challenge. • Generally sound justification of the performance requirements for the product in relation to the contextual challenge. 				
Level 3	7-8	<ul style="list-style-type: none"> • Fully sound design brief that demonstrates a realistic response to the contextual challenge, addressing most of the investigated needs and wants of the user. • Fully developed range of specification points that are realistic, technical and measurable, based on a fully relevant investigation of research in relation to the contextual challenge. • Fully sound justification of the performance requirements for the product in relation to the contextual challenge. 				
					/8	

2 Design						
Level	Mark	2.1 Design ideas (AO2 8 marks)	Evidence found on page	Teacher comments	Mark awarded	Pearson use only
	0	No rewardable material.				
Level 1	1-3	<ul style="list-style-type: none"> • Basic selection and use of design strategies to inform decisions to generate a limited range of simplistic design ideas in response to the contextual challenge. • Limited consideration for the user needs and specification parameters. • Ideas demonstrate a basic understanding of some materials and processes. 				
Level 2	4-6	<ul style="list-style-type: none"> • Generally appropriate selection and use of design strategies to inform decisions to generate a range of design ideas in response to the contextual challenge. • Generally sound consideration for the user needs and specification parameters. • Ideas demonstrate a generally sound understanding of relevant materials, processes and techniques. 				
Level 3	7-8	<ul style="list-style-type: none"> • Fully appropriate selection and use of design strategies to inform decisions to generate a wide range of design ideas in response to the contextual challenge. • Fully sound consideration for the user needs and specification parameters. • Ideas demonstrate a fully sound understanding of relevant materials, processes and techniques. 				
					/8	

2 Design (continued)						
Level	Mark	2.2 Review of initial ideas (AO3 8 marks)	Evidence found on page	Teacher comments	Mark awarded	Pearson use only
	0	No rewardable material.				
Level 1	1-3	<ul style="list-style-type: none"> • Superficial analysis of design ideas in response to the contextual challenge, which considers basic factors and makes limited connections between elements of the design. • Basic evaluation of design ideas leading to a limited refinement and development of designs, demonstrating a limited understanding of design considerations. 				
Level 2	4-6	<ul style="list-style-type: none"> • Generally developed analysis of design ideas, leading to appropriate refinement and development of designs, which considers appropriate factors and makes mostly relevant connections between elements of the design. • Competent evaluation of design ideas leading to appropriate refinement and development of designs, demonstrating a mostly sound understanding of design considerations. 				
Level 3	7-8	<ul style="list-style-type: none"> • Fully developed analysis of design ideas leading to effective refinement and development of designs, which considers comprehensive factors and makes fully relevant connections between elements of the design. • Effective evaluation of design ideas leading to considered refinement and development of designs, demonstrating a fully sound understanding of design considerations. 				
					/8	

2 Design (continued)						
Level	Mark	2.3 Development of design ideas into a chosen design (AO1 4 marks AO2 8 marks)	Evidence found on page	Teacher comments	Mark awarded	Pearson use only
	0	No rewardable material.				
Level 1	1-3	<ul style="list-style-type: none"> Limited use of research to inform ongoing developmental changes. Basic refinements of design ideas and a design solution that partially meets the design specification, informed by the basic application of technical knowledge of materials and a limited application of modelling/simulation techniques. Chosen design idea shows superficial technical details of some materials and components that could be interpreted by a third party. 				
Level 2	4-6	<ul style="list-style-type: none"> Some appropriate use of research to inform ongoing developmental changes. Some sound refinements of design ideas and a design solution that generally meets the requirements of the design specification, informed by the generally sound application of technical knowledge of materials and/or processes and the mostly appropriate application of modelling/simulation techniques. Chosen design idea shows generally appropriate application of calculations to determine some material quantities and technical details of most materials and components that could be interpreted by a third party. 				
Level 3	7-9	<ul style="list-style-type: none"> Generally appropriate use of research to inform ongoing developmental changes. Generally sound refinements of design ideas and a design solution that mostly meets the requirements of the design specification, informed by the mostly sound application of technical knowledge of materials and processes and the fully appropriate application of modelling/simulation techniques. Chosen design idea shows mostly appropriate application of calculations to determine most material quantities and technical details of materials, processes and components that could be interpreted by a third party. 				

<p>Level 4</p>	<p>10-12</p>	<ul style="list-style-type: none"> • Fully appropriate use of research to inform ongoing developmental changes. • Fully sound refinements of design ideas and a design solution that fully meets the requirements of the design specification, informed by the fully sound application of technical knowledge of materials and processes and the effective application of modelling/simulation techniques. • Chosen design idea shows fully appropriate application of calculations to determine all material quantities and technical details of materials, processes and components that could be interpreted by a third party. 			<p>/12</p>	
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2 Design (continued)						
Level	Mark	2.4 Communication of design ideas (AO2 8 marks)	Evidence found on page	Teacher comments	Mark awarded	Pearson use only
	0	No rewardable material.				
Level 1	1-3	<ul style="list-style-type: none"> • Basic selection and partially appropriate use of graphical techniques to communicate design ideas. • Basic selection and partially appropriate use of computer-aided design (CAD) techniques to communicate design ideas. • Basic selection and partially appropriate use of written techniques to communicate design ideas. 				
Level 2	4-6	<ul style="list-style-type: none"> • Relevant selection and generally appropriate use of graphical techniques to communicate design ideas. • Relevant selection and generally appropriate use of computer-aided design (CAD) techniques to communicate design ideas. • Relevant selection and generally appropriate use of written techniques to communicate design ideas. 				
Level 3	7-8	<ul style="list-style-type: none"> • Considered selection and fully appropriate use of techniques to communicate design ideas. • Considered selection and fully appropriate use of computer-aided design (CAD) techniques to communicate design ideas. • Considered selection and fully appropriate use of written techniques to communicate design ideas. 				
					/8	

2 Design (continued)						
Level	Mark	2.5 Review of chosen design (AO3 6 marks)	Evidence found on page	Teacher comments	Mark awarded	Pearson use only
	0	No rewardable material.				
Level 1	1-2	<ul style="list-style-type: none"> • Superficial analysis of the refinements made to the chosen design in response to the contextual challenge, which considers a limited range of factors and makes partially appropriate connections between elements of the design. • Basic evaluation of the refinements made to the chosen design, with limited reference to feedback made by others, and the consideration of the materials and components. 				
Level 2	3-4	<ul style="list-style-type: none"> • Generally developed analysis of the refinements made to the chosen design in response to the contextual challenge, which considers a generally relevant range of factors and makes mostly appropriate connections between elements of the design. • Competent evaluation of the refinements made to the chosen design, with mostly sound reference to feedback made by others, and the consideration of the materials, components and manufacturing techniques. 				
Level 3	5-6	<ul style="list-style-type: none"> • Fully developed analysis of the refinements made to the chosen design in response to the contextual challenge, which considers fully appropriate factors and makes fully appropriate connections between elements of the design. • Effective evaluation of the refinements made to the chosen design, supported by fully sound reference to feedback made by others and the consideration of the materials, components and manufacturing techniques. 				
					/6	

3 Make						
Level	Mark	3.1a Manufacture – selection of materials (AO2 8 marks)	Evidence found on page	Teacher comments	Mark awarded	Pearson use only
	0	No rewardable material.				
Level 1	1-3	<ul style="list-style-type: none"> • Basic selection of materials that are generally appropriate for the chosen prototype. • Show limited understanding of the material properties of the materials used in the prototype. 				
Level 2	4-6	<ul style="list-style-type: none"> • Considered selection of materials that are mostly appropriate for the chosen prototype. • Show a generally sound understanding of material properties of the materials used in the prototype. 				
Level 3	7-8	<ul style="list-style-type: none"> • Effective selection of materials that are fully appropriate for the chosen prototype. • Show a fully sound understanding of material properties of the materials used in the prototype. 				
					/6	

3 Make (continued)						
Level	Mark	3.1b Manufacture – skills and processes (AO2 12 marks)	Evidence found on page	Teacher comments	Mark awarded	Pearson use only
	0	No rewardable material.				
Level 1	1–4	<ul style="list-style-type: none"> • Produce a prototype that demonstrates basic making skills. • Basic selection of materials, fixtures, components and fittings, which are generally appropriate for the chosen prototype. • Simplistic use of tools, equipment and techniques for the manufacture of the prototype. • Demonstrate an adequate degree of safe working practice for self and others. 				
Level 2	5–8	<ul style="list-style-type: none"> • Produce a prototype that demonstrates generally competent making skills. • Generally considered selection of materials, fixtures, components and fittings, which are mostly appropriate for the chosen prototype. • Generally competent use of tools, equipment and techniques for the manufacture of the prototype. • Demonstrate a generally high degree of safe working practice for self and others. 				
Level 3	9–12	<ul style="list-style-type: none"> • Produce a prototype that demonstrates mostly competent making skills. • Mostly considered selection of materials, fixtures, components and fittings, which are fully appropriate for the chosen prototype. • Mostly competent use of tools, equipment and techniques for the manufacture of the prototype. • Demonstrate a high degree of safe working practice for self and others. 				
Level 4	13–16	<ul style="list-style-type: none"> • Produce a prototype that demonstrates fully competent making skills. • Fully considered selection of fixtures, components and fittings, which are entirely appropriate for the chosen prototype. • Fully competent use of tools, equipment and techniques for the manufacture of the prototype. • Demonstrate a sustained high degree of safe working practice for self and others. 			/16	

3 Make (continued)						
Level	Mark	3.2 Quality and Accuracy (AO2 12 marks)	Evidence found on page	Teacher comments	Mark awarded	Pearson use only
	0	No rewardable material.				
Level 1	1-3	<ul style="list-style-type: none"> • Produce a simplistic prototype that partially meets the end user needs in relation to a basic design problem. • Produce a prototype that meets limited aspects of the design specification. • Show a basic understanding of the need for accuracy. 				
Level 2	4-6	<ul style="list-style-type: none"> • Produce a generally functioning prototype that adequately meets the end user needs in relation to a partially demanding design problem. • Produce a prototype that meets some aspects of the design specification. • Show a partially sound understanding of the need for accuracy. 				
Level 3	7-9	<ul style="list-style-type: none"> • Produce a mostly functioning prototype that mostly meets the end user needs in relation to a generally demanding design problem. • Produce a prototype that mostly meets the design specification. • Show a generally sound understanding of the need for accuracy. 				
Level 4	10-12	<ul style="list-style-type: none"> • Produce a fully functioning prototype that fully meets the end user needs in relation to a demanding design problem. • Produce a prototype that fully meets the design specification. • Show a fully sound understanding of the need for accuracy. 			/12	

4 Evaluate						
Level	Mark	4.1 Testing and Evolution (AO3 6 marks)	Evidence found on page	Teacher comments	Mark awarded	Pearson use only
	0	No rewardable material.				
Level 1	1-2	<ul style="list-style-type: none"> • Superficial analysis of the prototype developed in response to the contextual challenge, taking into account the end user and product specification, and showing a partially considered approach to testing against measurable criteria. • Basic evaluation of the prototype, taking into account the intended purpose of the prototype and drawing partially appropriate conclusions from testing against measurable criteria. 				
Level 2	3-4	<ul style="list-style-type: none"> • Generally developed analysis of the prototype developed in response to the contextual challenge, taking into account the end user and product specification, and showing a generally considered approach to testing against measurable criteria. • Competent evaluation of the prototype, taking into account the intended purpose of the prototype and drawing generally appropriate conclusions from testing against measurable criteria. 				
Level 3	5-6	<ul style="list-style-type: none"> • Fully developed analysis of the prototype developed in response to the contextual challenge, taking into account the end user and product specification, and showing a fully considered approach to testing against measurable criteria. • Effective evaluation of the prototype, taking into account the intended purpose of the prototype and drawing fully appropriate conclusions from testing against measurable criteria. 			/6	

Please now add the totals for each section here.

Totals for each section	Mark awarded	Pearson use only
1 Investigate	/16	/16
2 Design	/42	/42
3 Make	/36	/36
4 Evaluate	/6	/6
TOTAL	/100	/100

Additional images