

Draft - subject to accreditation and change

Paper Reference(s)

XXXX/XX

Edexcel GCSE

Manufacturing (Double Award)

Unit 1: Designing Products for
Manufacture

Sample Controlled Assessment Tasks and
Grids

Information

Please see the contents of this document.

Controlled Assessment task

Unit 1: Designing Products for Manufacture

For this task you will produce a design solution for a manufactured product.

In order to complete this task you will undertake the following activities:

Activities		Suggested times
1. Investigation	a. Analysing the brief	5 - 8 hours
	b. Design Specification - product design and material constraints	
	c. Design Specification - production requirements and quality standards	
2. Design	d. Initial Ideas	6 - 7 hours
	e. Review	
3 Make	f. Prototype	5 - 8 hours
3.Communication	g. Presentation	5 - 6 hours
4. Evaluation	h. Final review	2 - 4 hours

Suggested products are:

Suggested products are:

1. Food products, e.g.

- High energy snack/meal for outdoor activities
- Dessert for sale at a chain of petrol stations
- A batch of twelve cakes
- A batch of 40 biscuits.

2. Textile Products, e.g.

- Laptop bag for sale at school open-day
- A protective MP3 carry case
- A small batch (8) of reusable carrier bags
- A batch of dolls clothes for use in a crèche.

3. Printing and board Products, e.g.

- Flat pack containers for specified products and markets
- Student information pack for entrants to 6th form college.
- A print run of a school magazine
- A batch of packaging for a product such as an Easter Egg

4. **General manufacture**, to include all aspects of resistant materials e.g.

- Name plate/desk tidy for use by teachers at options evenings/open days
- Flat pack furniture for a specified market
- A batch of pencil boxes
- Ice scrapers
- Electronic devices such as counters and alarms
- Metal work products such as bike stands or storage items
- A batch of identical toys using machine shop and electronic facilities.

The suggested products can be contextualised to suit local centre/employer needs or where access to particular resources may be an issue.

Controlled conditions

The preparation and production of students' designs and drawings must take place under controlled conditions. Students will only be allowed to produce their design portfolios during lesson time when supervised by a teacher or invigilator. Student's work must be collected in at the end of each lesson and handed back at the beginning of the next lesson.

Feedback control

Teachers are allowed to provide regular formative feedback throughout the creative design process. Student progression should be supported by the centre's own Assessment for Learning (AFL) strategies.

Demonstrations of practical activities are allowed in order to develop knowledge, understanding and skills and to identify health and safety issues relating to specific tools, equipment and processes.

Collaboration control

Where group-work occurs, evidence of individual contributions are clearly identified and recorded.

Resources

Access to resources is determined by those available to the centre

Unit 1: Designing Products for Manufacture

Sections	Sub-sections	Marks	Level of response	Mark range
Investigation (18 marks)	a) Analysing the brief*	6	<ul style="list-style-type: none"> Level of response not worthy of credit. 	0
			<ul style="list-style-type: none"> An analysis of the brief to identify basic client needs, with the identification of some key features of the product. 	1 - 2
			<ul style="list-style-type: none"> An analysis of the brief to identify the main client needs, with a description of the main key features of the product. 	3 - 4
			<ul style="list-style-type: none"> An analysis of the brief to explain the main client needs, with a justification of the main key features of the product. 	5 - 6
	b) Specification - product criteria and material constraints*	6	<ul style="list-style-type: none"> Level of response not worthy of credit 	0
			<ul style="list-style-type: none"> Production of a design specification that identifies basic details of the product design and of the material constraints. 	1 - 2
			<ul style="list-style-type: none"> Production of a design specification that describes some of the main details of the product design and of the material constraints. 	3 - 4
			<ul style="list-style-type: none"> Production of a design specification that identifies the main details of the product design and of the material constraints. 	5 - 6
	c) Specification - production requirements and quality standards*	6	<ul style="list-style-type: none"> Level of response not worthy of credit. 	0
			<ul style="list-style-type: none"> Production of a design specification that identifies basic details of the production requirements and quality standards. 	1 - 2
			<ul style="list-style-type: none"> Production of a design specification that describes some of the main details of the production requirements and quality standards. 	3 - 4
			<ul style="list-style-type: none"> Production of a design specification that explains the main details of the production requirements and quality standards. 	5 - 6

Sections	Sub-sections	Marks	Level of response	Mark range
Design (12 marks)	d) Ideas and design solutions*	6	<ul style="list-style-type: none"> Level of response not worthy of credit. 	0
			<ul style="list-style-type: none"> Generation of basic design ideas and the development of simple design solutions. 	1 - 2
			<ul style="list-style-type: none"> Generation of alternative design ideas and the development, in some detail, of manufacturing solutions. 	3 - 4
			<ul style="list-style-type: none"> Generation of imaginative design ideas and the development of detailed and appropriate manufacturing solutions. 	5 - 6
	e) Testing*	6	<ul style="list-style-type: none"> Level of response not worthy of credit. 	0
			<ul style="list-style-type: none"> Limited testing against the design criteria to select and outline the final design solution. 	1 - 2
			<ul style="list-style-type: none"> Use of a range of testing against the design criteria to select and describe the final design solution. 	3 - 4
			<ul style="list-style-type: none"> Objective testing against the design criteria to select and justify the final design solution. 	5 - 6
Make (8 marks)	f) Prototype	8	<ul style="list-style-type: none"> Level of response not worthy of credit. 	0
			<ul style="list-style-type: none"> Selection, with support and guidance, of some appropriate processes, tools and equipment, using them safely with some skill to make a prototype. 	1 - 2
			<ul style="list-style-type: none"> Selection, with limited support and guidance, of appropriate processes, tools and equipment, using them safely with skill to make a prototype. 	3 - 5
			<ul style="list-style-type: none"> Independent selection of appropriate processes, tools and equipment, using them safely with skill and accuracy to make a prototype. 	6 - 8

Sections	Sub-sections	Marks	Level of response	Mark range
Communication (6 marks)	g) Presentation techniques	6	<ul style="list-style-type: none"> Level of response not worthy of credit. 	0
			<ul style="list-style-type: none"> The selection and use of a limited range of techniques to present the final solution. 	1 – 2
			<ul style="list-style-type: none"> The selection and use of a range of techniques to present, in some detail, the final solution. 	3 – 4
			<ul style="list-style-type: none"> The selection and use of an appropriate range of techniques to present, in detail, the final solution. 	5 – 6
Evaluation (6 marks)	h) Final review*	6	<ul style="list-style-type: none"> Level of response not worthy of credit. 	0
			<ul style="list-style-type: none"> Limited description of how the final design solution meets the brief and specification, with an identification of some relevant modifications. 	1 – 2
			<ul style="list-style-type: none"> Description, in some detail, of how the final design solution meets the brief and specification, describing relevant modifications. 	3 – 4
			<ul style="list-style-type: none"> An explanation, in some detail, of how the final design solution meets the brief and specification, explaining relevant modifications. 	5 - 6
Total marks:		50		50

* Opportunity for students to be assessed on Quality of Written Communication (strand (iii) — organise information clearly and coherently, using specialist vocabulary when appropriate).