

## GCSE Design and Technology: Product Design

# Schemes of work

*Schemes of work* are suggestions and ideas about how you might deliver GCSE Design and Technology: Product Design. You can use these suggestions, adapt them to better suit your students or use your own schemes of work.

However you deliver GCSE Design and Technology: Product Design, you can rely on AQA's comprehensive support package – online, on paper and in person – including resources, specimen exam questions, training meetings, continuing professional development (CPD), guidance and advice.

This guide to *Schemes of work* is part of your invaluable **Teacher Resource Bank**, which includes a *Resource list*, *Getting started*, *Summary of changes* and more.

If you have any enquiries about GCSE Design and Technology you can speak directly to the AQA Design and Technology team by e-mail [dandt@aqa.org.uk](mailto:dandt@aqa.org.uk) or telephone **0161 957 3644**.



## GCSE Design and Technology: Product Design

### Guidance

The following scheme of work is for guidance only. Each centre has its own unique circumstances in which the Product Design course will be delivered. This can be influenced by the expertise and experience of the particular teacher(s), timetabling issues, workshop/classroom availability, and also the accessibility to ICT and materials/resources. The example shown works on the basis of a single 50 minute period and a double 1 hour 40 minute period per week over the two years. The position of mock examinations and work experience will affect the scheme of work and the model shown

### Year 10

This first year of the two year course deals mainly with the students acquiring the underpinning knowledge and skills that are essential to their success in both the written paper and the controlled assessment. The course should be carefully planned to ensure that candidates are taught the underpinning knowledge and skills that are the foundation of this Product Design course.

The underpinning skills are:

#### Theoretical Knowledge

- Paper/card plus at least one other material
- Design issues such as sustainability, packaging, human factors, etc
- Manufacturing – both school based and commercial methods

#### Designing and making skills

- Drawing and modelling skills
- Analytical skills
- ICT skills
- Hand, machine and CAM production methods

The model of delivery exemplified uses the single periods to deliver the essential knowledge and skills and starts to prepare the students for the written paper. It is recommended that as 40% of the assessment is related to the written paper a similar proportion of time is dedicated to this. It is anticipated that this learning takes place through a wide variety of activities such as practical tasks, product analysis, discussions, games, quizzes, etc.

The latter part of year 10 is dedicated to preparing students for their controlled assessment task.

### Year 11

Much of the second year of the course is dedicated to the controlled assessment task. Single periods are used mainly to prepare the candidates for the controlled task sessions where candidates will be working under informal supervision, with only five periods given over to the controlled task once candidates are working independently with the manufacture of the prototype. It is recommended that sufficient time is allocated to this preparation so that candidates have the skills, understanding and resources available to ensure that they can use the controlled time effectively. Eight weeks have been allocated to the final preparation for the written paper which does now contain a pre-release topic to allow candidates to prepare for the section A (first question) which will be worth around 25% of the paper mark. It must be stressed that full coverage of the subject content is required and the exemplified scheme of work allows adequate time for this important part of the course. These activities need to be varied and offer practice at answering exam style questions, opportunities for handling products, discussions on products and key topics, quizzes, games, etc.

How a centre chooses to deliver the course will be based on their personal expertise, experience and resources. Many centres may consider an element of team teaching to be the most effective way to deliver the different areas.

# GCSE Design and Technology: Product Design

Year 10 term one													
	1	2	3	4	5	6	7	8	9	10	11	12	13
Single	Intro to PD course. What is PD? Needs and wants	Short history of design	Product evolution. Technology push/ market pull	Drawing/modelling and preparation techniques appropriate to support the D&M assignment				Paper & card as a material: classification, properties, sources, stock sizes, combinations	Purposes and variety of packaging: Cartons, blister, etc			Printing: Litho, flexo, screen, gravure, etc	Die-cutting
Double	Product analysis using a range of products ACCESS FM, CAFEQUE, etc	Design & Make assignment focussing on "In the style of..." Simple product and packaging based around the controlled task "Designer influences". Substitute this task if planning to offer this topic for the controlled assessment task. This short assignment should indicate the standard but not the quantity required for GCSE. As such research sources might be provided via mood board or display on classroom wall. Ideas might be restricted in number											

Year 10 term two													
	1	2	3	4	5	6	7	8	9	10	11	12	13
Single	Consumer issues: fair testing, quality, standards, consumer groups, etc	Branding: Brand loyalty	Safety: own and users Risk assessment	Materials (specific chosen material(s): classification, properties, sources, stock sizes, combinations			Smart and new materials: Applications and influence on new products	Human factors: Anthropometrics, ergonomics, special groups, adjustments etc.	Sustainability: 6Rs, Green design, product miles, carbon footprint, life cycle, responsibilities, etc				
Double	Design & Make assignment focussing on manufacturing in quantity based around the controlled task "Fundraisers". Substitute this task if planning to offer this topic for the controlled assessment task. Candidates should be restricted by manufacturing processes, eg pewter casting. Work should include manufacturing aids and/or CAM and cover issues such as sequencing tasks, safety, QA												

# GCSE Design and Technology: Product Design

Year 10 term three													
	1	2	3	4	5	6	7	8	9	10	11	12	13
Single	Introduction to commercial production: scales, organisation, costs, etc	Standard components maintenance	Product maintenance	Quality: QA/ QC, tolerance, manufacturing. spec	ICT in manufacturing: JIT, automation for CAT	Research planning for CAT	Research	Research	Y10 exams	Target market planning	Exam feedback	Design criteria: ACCESS FM, CAFEQUE, etc	Design strategy one (appropriate to CAT)
Double	Manufacturing product design experience. Work as part of team. Consider organisation of equipment and labour and relate to industrial production examples. Possibly combine with factory visit.												
					Introduction to Controlled Assessment Tasks	Research	Product analysis	Exam prep	Y10 exams	Research analysis	Target market	Design criteria	Design ideas

Year 11 term one													
	1	2	3	4	5	6	7	8	9	10	11	12	13
Single	Idea strategy two (appropriate to CAT)	Work experience	Work experience	Soft modelling demos (appropriate to CAT)	Wider issues: Awareness raising	Development planning/ skills/ strategies	Design proposal: skills/ strategies	Materials selection: input	Manufacturing specification: input	Production planning	Testing: strategies	Making/testing. Candidates working independently	
Double	Design ideas	Work experience	Work experience	Soft modelling ideas	Wider issues	Development of ideas	Presenting a design proposal	Presenting a design proposal	Manufacturing specification	Making/testing. Candidates working independently			

# GCSE Design and Technology: Product Design

Year 11 term two													
	1	2	3	4	5	6	7	8	9	10	11	12	13
Single	Mock exams	CAT review/feedback	Exam feedback	Making/testing. Candidates working independently	Industrial production: reminders	Planning evaluation tasks	Testing	Final review	Admin: CRF, declaration	Exam preparation: overview	Materials and components: revision, games, etc	Classic design/retro design	Human factors: revision games, etc
Double	Mock exams	Making/testing. Candidates working independently											

Year 11 term three							
	1	2	3	4	5	6	
Single	Design movements revision	Preparation for design question based on pre-release sheet. Practice question based on specimen paper	Sustainability: Revision, games, etc	Design question feedback	ICT in manufacturing revision	Consumer issues revision	Product analysis: target markets, evolution, new technologies, etc
Double	Preparation for design question based on pre-release sheet. Practice question based on specimen paper	Manufacturing in school – practical team work – sequencing tasks, organisation of resources, QA, H&S, etc	Packaging: Design practice/revision	Exam summary of what to expect, strategies such as mark a minute, resources which are in room, etc			





