



Design and Technology: Product Design Unit B802 Designing & Making Innovation Challenge Teachers' Script

OCR GCSE (Short Course) in Design and Technology: Product Design J900

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Session 1	Organisational instructions	Must say	Say in your own words
IMPORTANT	Before the candidates enter the room.		
180 minutes are available for session 1.	Arrange room for candidates to sit in groups of three / four.		
The times given in this column are	Lay out inspiration / handling collection. Printed resources. These should be available for both sessions.		
suggestions and may be adapted to suit	Place a candidate answer booklet in each workspace. Additional pens / pencils.		
Centre needs.	Modelling/constructing materials. Have a wide range of appropriate materials, tools, equipment available.		
	When candidates enter the room.		
	Candidates sit in working groups of 3 or 4 students.		
	Rules of the Innovation Challenge.	Session 1 – Designing / Session 2 - Making	Explain the meaning of work – not
		Over the next two sessions you are going to be involved in a D&T activity.	'decorated' prototypes, but experiments with ideas – trying things out to see if they
		By the end of the session, your sketches, notes, models, prototypes should show that your ideas	work/function.
		would work.	It is important that you try your best and feel that you can try any idea
		You are doing this challenge to show just how good you are at coming up with new and creative ideas.	out – however crazy or impossible it might seem to start with. Be creative.

You can develop your ideas in whatever ways you think best – through sketching, writing or making models.	
Use whatever ways that will help show your most creative work.	
The examination board has given you each an answer booklet to record your progress throughout the challenge.	Use it to record everything.
Although you are not working in an examination hall you must still treat this activity as an examination. You should not talk unless you are told to do so by a member of staff. Part of the examination requires you to explain your work and receive comments from your work group. This will be explained by the member of staff before this activity takes place.	In the world of work, many companies share ideas and discuss possibilities. They are often called 'think tanks'.
Teaching staff are here to monitor health and safety and organise the running of the challenge. Staff are not allowed to give advice or guidance about your design or making activity. However, you are allowed to ask for clarification if you are not sure about a task.	
We will explain everything as we move through the two sessions.	
PLEASE REMEMBER THAT THE EXAMINER WILL ONLY SEE THE WORKBOOK. IT IS IMPORTANT THAT EVIDENCE OF ALL THINKING, 2D DESIGNING, AND 3D MODELLING, (USING PHOTOGRAPHS), IS INCLUDED IN THIS WORKBOOK.	

Candidates fill in the following information on page 1 of the answer booklet:	There will be times when you will be asked to draw or write particular things in your booklet.	
Candidate name, candidate number and centre number. Fill in the title of the Innovation Challenge that you will complete	We will be taking photographs of your models as they develop. These photos will be stuck in your booklet. You must develop your own ideas during these	
take place.	sessions. The 'Reflect and Record' activity will allow you to take advice and suggestions from the others in your group. If you think the ideas are suitable. You will be able to modify your design and incorporate their feedback.	
	You must produce your own booklet and your own model. You must not move forward in the workbook until instructed to do so. You are allowed to return to previously completed sections if you wish to do so.	
Start the innovation Challenge.	We are now going to start the challenge.	
Introduction to the context.	If at any time you don't understand what I tell you, or what you have to do, then ask.	Don't be shy or embarrassed – it is important that everyone understands so that you all achieve
Read through the challenge, (supplied on a	There are four challenges outlined on the sheet provided. We are going to carryout task	your best.
single separate sheet) explain anything that is needed. Explain the need to respond to the 'supplementary information'.	draw a line through the other three tasks. We will now read through the task together.	
	And through the challenge, (supplied on a ingle separate sheet) explain anything that se second to the context.	Information on page 1 of the answer pooklet:write particular things in your booklet.Candidate name, candidate number and tentre number. Fill in the title of the nnovation Challenge that you will complete ind the date session 1 and session 2 will ake place.We will be taking photographs of your models as they develop. These photos will be stuck in your booklet.You must develop your own ideas during these sessions. The 'Reflect and Record' activity will allow you to take advice and suggestions from the others in your group. If you think the ideas are suitable. You will be able to modify your design and incorporate their feedback.You must produce your own booklet and your own model. You must produce your own booklet and your own model. You must not move forward in the workbook until instructed to do so. You are allowed to return to previously completed sections if you wish to do so.Start the innovation Challenge.If at any time you don't understand what I tell you, or what you have to do, then ask.There are four challenges outlined on the sheet provided. We are going to carryout task.

15 minutes	The inspiration and handling collection.		
	Introduce the handling collection / resources. Talk about the 'wow factor' that makes these products interesting, creative etc Allow a few minutes for them to have a look at, and talk about the collection.	You are allowed to ask questions about any of the items that I am about to show you. Think about each of the items. How could these items aid your design when working on the challenge activity we just read through?	
	Introduce the inspirational collection explain why these items have been selected, their inspirational features or use of material. Encourage students to examine the two collections and ask questions about them.		
THE FOLLOWING SECTION SHOULD BE DONE IN BOX 1 IN YOUR ANSWER BOOKLET			

6 minutes	Box 1. Initial Thoughts.	The first thing we would like you to do is to put some of your first thoughts down on paper.	
		Remember, we want you to be as creative as possible, so sketch and add notes of any ideas you have, even if they seem a bit risky or outrageous at this stage.	
	Open your answer booklet and find box 1.	We really want you to feel able to 'let your mind go out to play'.	
	Allow 6 minutes with a reminder after 5 minutes.	In this box put down your initial thoughts. You have 6 minutes, so work quickly. Try and remain focused.	

	THE FOLLOWING SECTION SHOULD BE DONE IN BOX 2 IN YOUR ANSWER BOOKLET			
8 minutes	Box 2. Allow 8 minutes with a reminder after 6 minutes.	Look at your initial thoughts. Highlight the areas that interest you. Think about the challenge and the supplementary information you have been given. Which three ideas are worth developing? Then:		
8 minutes	Allow 8 minutes with a reminder after 6	interest you. Think about the challenge and the supplementary information you have been given. Which three ideas are worth developing?		

	THE FOLLOWING SECTION SHOU	BOOKLET	
15 minutes	Box 3 and 4. Decision Time.	OPEN OUT THE LAST PAGE TO REVEAL BOXES 3 and 4	
	Think about some key concerns.	Box 3 and 4 will be visible throughout the challenge and you should refer to them from time to time. Think carefully before you fill out the boxes. Consider all your options. Now complete boxes 3 and 4 with: A design brief;	One that you will enjoy doing. One that will show your creative ability.
		Who your product will be used by; Where your product will be used; and then	A detailed description of the group of people who will benefit from your design. The environment.
	Allow 15 minutes with a reminder after 12 minutes.	A full design specification that lists all key features that you will need to consider.	

	THE FOLLOWING SECTION SHOULD BE DONE IN BOX 5 AND 6 IN YOUR ANSWER BOOKLET				
25 minutes	Box 5 and 6. Product ideas.	In a moment you can start Designing. You can sketch, make notes and make card models. You should produce a range of ideas that satisfy your chosen design brief. From now on you may use any of the resources at any time.	If you use 3D modelling, Systems and Control Kits or trialling & testing with food ingredients, to develop ideas, you can take photographs and stick them into box 5. Use annotation to communicate you ideas to the examiner.		
	Allow 20 minutes and move candidates onto box 6. Give a reminder of time after a further three minutes.	If there are things you need that are not here, ask. Remember, from now on you are creating your own ideas. You should not talk.	Ensure these photographs are fully annotated.		
	THE FOLLOWING SECTION S	HOULD BE DONE IN BOX 7 IN YOUR ANSWER B	OOKLET		
6 minutes	Box 7 Traffic Light Zone.	Fill in the three spaces. Think carefully about the problems you may encounter.			
		Which is your best idea? Which is your most unusual idea?	Check it against the specification. Which might not be as silly as it first appears.		

	THE FOLLOWING SECTION SHOULD BE DONE IN BOX 8 IN YOUR ANSWER BOOKLET			
25 minutes	Box 8. The development of your final idea.	You have 25 minutes to develop your chosen idea.		
		You may use any of the resources at any time.		
		Think about size, shape and assembly.	Ergonomics.	
		Think about modelling materials.		
		Think about components	How many separate components are there in your proposal?	
		Think about how the product will function.	are there in your proposal:	
		Think about taste and nutrition.	'Take Five' challenge only.	
	Allow 25 minutes with a reminder after 20 minutes.	A photograph (photo 1) will be taken at the end of 25 minutes to record your progress. Additional photographs may be placed in box 8. These photos may be annotated. MAKE SURE THAT ALL 3D MOCK-UP MODELS AND PARTS OF MODELS ARE INCLUDED IN THE		
15 minutes	BREAK.	PHOTOGRAPH.		
	Allow candidates 15 minutes to have a drink, use the toilet, get some fresh air if possible. They may stay in the same room as the challenge if supervised, but are not allowed to work in their booklets or on their models.	Close the booklets.		

	PRESENTATIONS. Teacher Introduction to the presentations. Same table / group arrangements as before.	You will have the opportunity to tell the other students in your group what you are designing and modelling. You can show drawings / card models if it helps to communicate your idea. Students in your group can ask you questions. Students in your group can suggest improvements / developments to your idea.	Explain about the presentations. The value of sharing ideas. Suggesting modifications. Discussing further possibilities.
THE FOLLOW	VING SECTION SHOULD BE DONE IN BC	X 9 IN YOUR ANSWER BOOKLET	
5 minutes	Box 9. Reflect and Record.	Use the space provided in Box 9 to plan your presentation.	
		GROUP WORK	
10 - 15 minutes Timings will need to be flexible due to group size.	Within working groups. (3 or 4 students) Candidates give presentations of their ideas and receive feed back. Staff to overview process and encourage candidates to be positive, constructive and fair with time allocations.	You are to present your ideas to members of your group. You presentation should last approximately 2 minutes. 2 minutes of question and answer activity will then take place. You should make brief notes of your group's feedback about your design to help complete the next activity.	

	THE FOLLOWING SECTION SHOULD BE DONE IN BOX 10 IN YOUR ANSWER BOOKLET				
6 minutes	Box 10. Green Zone.	Record any comments / suggestions made by your working group. What could you change / modify.			
	THE FOLLOWING SECTION SHOULD BE DONE IN BOX 11 IN YOUR ANSWER BOOKLET				
5 minutes	Box 11 Question time.	Answer the questions.	Add additional support / explanation if appropriate.		
10 minutes	Modelling Kit. Introduction to the modelling/ prototyping materials available.	I am about to introduce the modelling materials we have available to you. You are not required to use every material provided. Only appropriate materials for your design should be used. If you require a specific material that is not here you may request it.	Staff may wish to demonstrate some materials, construction/assemble possibilities etc. If the candidates know what is available, it will help them in the construction/assembly of their model/prototype. They may ask for additional items.		

	THE FOLLOWING SECTION SHOULD BE DONE IN BOX 12 IN YOUR ANSWER BOOKLET				
10 minutes	Box 12. Your Model.	Having seen the modelling materials provided complete each of the sections in box 12.	Think about how you will make your model/prototype. What are your choices? What would be the best? Why?		
	Allow 10 minutes with a reminder after 8 minutes.				
	THE FOLLOWING SECTION SH	OULD BE DONE IN BOX 13 IN YOUR ANSWER E	BOOKLET		
6 minutes	Box 13. Action Plan for Session 2.	In the next session you will start to manufacture the model. Plan what you will need to do in this session.			
	Allow 5 minutes with a reminder after 4 minutes.	Do staff need to get anything for you? Do you need to find out anything that will help you next time?			
		Record your plan in box 13.			
	End of session one.				
	Booklets must be collected in and securely stored by examination officer.				

Session 2	Organisational instructions	Must say	Say in your own words
IMPORTANT	Before the candidates enter the room.		
	Arrange room for candidates to sit in the		
180 minutes	same groups as session 1.		
are available for session 2.	Lay out inspiration / handling collection. Printed resources.		
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The times	Modelling materials. Have a wide range of appropriate materials, tools, equipment		
The times given in this	available.		
column are	When candidates enter the room.		
suggestions	Candidates sit in the same working groups.		
and may be	Give out part completed workbooks to		
adapted to suit	candidates. Candidates who have not		
Centre needs.	attended session 1 may not attend session		
	2.		
A 10 Minute	Rules of the Innovation Challenge.	In Session two of the innovation challenge you will	
Break is		be making your design.	
included at the		You will have longer periods of uninterrupted time so	
end of making session 3.		that you can model/produce your idea.	
This may be		You will be modelling/producing your design so that	
moved to suit		you, your teacher and the examiner can see your	
centre needs.		ideas.	
		You should not talk to each other unless directed to	
		do so. Teaching staff are here to monitor health and	
		safety and organise the running of the challenge.	
		Staff are not allowed to give advice or guidance	
		about your design or making activity. However, you	
		are allowed to ask for clarification if you are not sure about a task.	
		We will continue to explain everything as we move	
		into the final stages of this challenge.	Explain if necessary the
		You will be using tools and equipment, so your	departments expectations with
		normal risk assessments must apply.	regard to health and safety.

	THE FOLLOWING SECTION SHOULD BE DONE IN BOX 14 IN YOUR ANSWER BOOKLET		OOKLET
5 minutes	Box 14. Reflection.	You have 5 minutes to look back over the work you did in session 1. Look carefully at Box 3. Read your design brief, user	
		group and specification. Are you still on track?	
		Fill out box 14. (page 5).	
40 minutes	Go Make!	You will now have three manufacturing/modelling sessions.	
	After 30 minutes stop the candidates and tell them they have 10 minutes remaining in this section.	Session 1 You have 40 minutes to start constructing/making your product. This time will go very quickly. You must be organised and work efficiently. A photograph (photo 2) will be taken at the end of 40 minutes to record your progress. Additional photographs may be taken and added in the 'additional space' section of the workbook if required.	
40 minutes	After 30 minutes stop the candidates and tell them they have 10 minutes remaining in this	sessions. Session 1 You have 40 minutes to start constructing/making your product. This time will go very quickly. You must be organised and work efficiently. A photograph (photo 2) will be taken at the end of 40 minutes to record your progress. Additional photographs may be taken and added in the 'additional space' section of the workbook if	

	THE FOLLOWING SECTION SHOULD BE DONE IN BOX 15 IN YOUR ANSWER BOOKLET		DOKLET
5 minutes	Box 15.	Fill in progress report 1.	
		Be honest about the problems you have experienced.	
		What are the possible solutions to your problems?	
		Check that your model/prototype is photographed.	
40 minutes	Go Make!	You have 40 minutes to continue constructing your product.	
	After 30 minutes stop the candidates and tell them they have 10 minutes remaining in this section.	A photograph (photo 3) will be taken at the end of 40 minutes to record your progress. Additional photographs may be taken and added in the 'additional space' section of the workbook if required.	

	THE FOLLOWING SECTION SHOUL	D BE DONE IN BOX 16 AND 17 IN YOUR ANSWE	R BOOKLET
5 minutes	Box 16 and 17.	Fill in progress report 2.	
		How have things progressed?	
		Which areas have been successful?	
		Check that your model is photographed.	
	Fill in box 17.	Plan what you need to do in the last 40 min time allocation.	
45 minutes	Go Make! After 35 minutes stop the candidates and tell	You have 45 minutes to finish constructing your	
	them they have 10 minutes to finish their models.	product.	
	A short break after this final session is designed to aid the taking and mounting of final photographs.	A photograph (photo 4) will be taken at the end of 45 minutes to record your final product. Additional photographs may be taken and added in the 'additional space' section of the workbook if required.	

2 Minutes	Tidy Workspace. To allow work in workbooks to continue. Staff to organise final photographs.	Clear workspace of tools, equipment, materials etc. You need to have adequate space to complete work in workbook.	
10 minutes	BREAK. Allow candidates 10 minutes to have a drink, use the toilet, get some fresh air if possible. They may stay in the same room as the challenge if supervised, but are not allowed to work in their booklets or on their models.	Close the booklets. No further work on models until after break.	
	THE FOLLOWING SECTION SH	HOULD BE DONE IN BOX 18 IN YOUR ANSWER E	BOOKLET
6 minutes	Box 18. Evaluation. Regroup the candidates at their tables.	You are about to complete the evaluation of your design and prototype product. Answer the following sections in as much detail as possible. Remember that you are allowed to use the additional space in the workbook.	Explain there is no more time for construction, but they can still communicate via their booklets.
	Allow 6 minutes. Give a reminder after 4 minutes.	What did you want to achieve, but couldn't?	
	Fill in Box 18		

	THE FOLLOWING SECTION SHO	OULD BE DONE IN BOX 19 IN YOUR ANSWER B	OOKLET
7 minutes	Box 19. Summing up.	List the most successful things about your product.	
	Fill in box 19.	Do you think your intended users would be interested in your product?	
	Allow 7 minutes. Give a reminder after 5 minutes.	If you had more time, what would you do?	
	THE FOLLOWING SECTION SH	OULD BE DONE IN BOX 20 IN YOUR ANSWER E	BOOKLET
15 minutes	Box 20. Allow 15 minutes for this task.	This session is due to finish at	
	After 11 minutes move candidates on to 'fast	Look at your original specification in box 4.	
	forward 2'.	Have you done what you set out to do?	
		Use box 20 to record your thoughts.	
		You may wish to comment on the whole experience. How you personally found the challenge.	
	Fast Forward 2.	Use the fast forward box to list the main features of your product if it was manufactured.	Materials, surface finish, colour, texture, smell, etc, as appropriate.
	Collect in workbooks. Check that final photographs have been taken and glued in. Examination officer to store workbooks securely.		

30 minutes	Time to Reflect.	You are not allowed to make any alterations to your
	Between 24 and 72 hours after the challenge was completed - return to	work from session 1 or 2 in your workbook.
	page 2 in the booklet.	Now that the challenge has been completed and you have had time to think about what you did, you can fill in the 'Time to reflect' box on page 2. Sketches, notes and photographs can be used here.
		This is not an evaluation of your work. It is a chance for you to review your ideas and put forward any further suggestions you may have had to improve your product further.