June 2014

GCSE DESIGN AND TECHNOLOGY PRODUCT DESIGN

A552 Designing and Making Innovation Challenge

6 hours in two 3 hour sessions plus 30 minutes to reflect on design ideas between 24 and 72 hours of the completion of the challenge.

The 6 hour examination and 30 min reflection time can be conducted at the discretion of the centre between 1 April and 21 June 2014.

Candidates answer on the Question Paper.

OCR supplied materials:
- Task sheet A552/TS (inserted)

Other materials required:
- Modelling materials and equipment
- A calculator may be used

<table>
<thead>
<tr>
<th>Candidate forename</th>
<th>Candidate surname</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Centre number</th>
<th>Candidate number</th>
</tr>
</thead>
</table>

INSTRUCTIONS TO CANDIDATES

Please clearly write below

Title of the selected Innovation Challenge

- The insert will be found in the centre of this document.
- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Answer all the questions.

INFORMATION FOR CANDIDATES

- The total number of marks for this paper is 60.
- This document consists of 14 pages. Any blank pages are indicated.

INSTRUCTIONS TO CENTRES

- It is essential that centres follow the instructions printed in the Instructions for Teachers (A552 IT/A552 TN) for the conduct for running this Innovation Challenge.
- Boxes 3 and 4 are printed on page 12 of this workbook. This page should only be folded out once boxes 1 and 2 have been completed.
- The activity (with the exception of Time to Reflect) is designed to take place in a design room, studio or workshop (not the centre’s examination room/hall).

For Examiner’s Use Only

<table>
<thead>
<tr>
<th>Design</th>
<th>22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>8</td>
</tr>
<tr>
<td>Use of Materials</td>
<td>14</td>
</tr>
<tr>
<td>Analysis</td>
<td>12</td>
</tr>
<tr>
<td>Reflection</td>
<td>4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>60</td>
</tr>
</tbody>
</table>

© OCR 2014 [A/501/6751] OCR is an exempt Charity
DC (KN) 77432/2
Time to Reflect

Use this page to review your ideas and put forward any further suggestions you may have to improve your product further. This can only be completed during the period 24 hours after and within 72 hours of the completion of the challenge. No other pages of this workbook can be added to, or amended during the 30 minute reflection time.
**Session 1**

1. What could you design? What are your initial thoughts? Use sketches and notes to communicate your thinking.

2. Which three ideas are worth developing?
   - 1
   - 2
   - 3

   Three possible design briefs
   - 1
   - 2
   - 3
5 Start designing. Use sketches, notes and/or models to show your ideas.

(a) What do you think of your ideas so far?
(b) Which is your best idea?
(c) Which is your most unusual idea?
(d) What problems can you see?
**Reflect and Record**
Use the space below to plan what you will say.

**Feedback**
Record any suggestions made by others in your group.
Modifications you could make.

**Developing your final idea (Photograph 1)**

**Complete this box only in Session 2**

<table>
<thead>
<tr>
<th>10</th>
<th>(a) What does your design do?</th>
<th>(b) What would you like your design to do?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c)</td>
<td>How could your design become environmentally friendly?</td>
<td>(d) How does your design appeal to the user group?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
List the materials/ingredients you have chosen to make your prototype.

<table>
<thead>
<tr>
<th>Component description</th>
<th>Material/Ingredient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How could these components be joined or combined together?

How could CAM or other electronic devices help you make your prototype?

Action Plan for Session 2

Progress Report 1 – Problems I have come up against so far.

Possible Solutions.

‘Go make’

Progress Report 2 – Which areas have been most successful so far?

Plan what you will be doing/making for the final Session of construction time.

Finish making your prototype.
Evaluation

17 What did you want to achieve but have not been able to?

What are the most successful things about your product?

Why do you think your intended user/s would be interested in your product?

If you had more time, what would you do to develop your design further?

18 Check your prototype meets your original specification. Use the space below to communicate your final thoughts.

Describe what your product will look like if manufactured.
3 Decision Time!

Your Design Brief

I am going to design and make a ...

My intended clients/users are ...

My intended design will be used in ...

4 Your Design Specification

To be successful my product must ...

Photograph 1

Photograph 2

Photograph 3

Photograph 4
Copyright Information

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download from our public website (www.ocr.org.uk) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact the Copyright Team, First Floor, 9 Hills Road, Cambridge CB2 1GE.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.

© OCR 2014