

**Friday 14 June 2013 – Afternoon**

**GCSE DESIGN AND TECHNOLOGY Product Design**

**A554/01** Designing Influences

Candidates answer on the Question Paper.

**OCR supplied materials:**

None

**Other materials required:**

None

**Duration:** 1 hour 30 minutes

**MODIFIED LANGUAGE**



Candidate  
forename

Candidate  
surname

Centre number

Candidate number

### INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions in Section A **and** B.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
- Do **not** write in the bar codes.

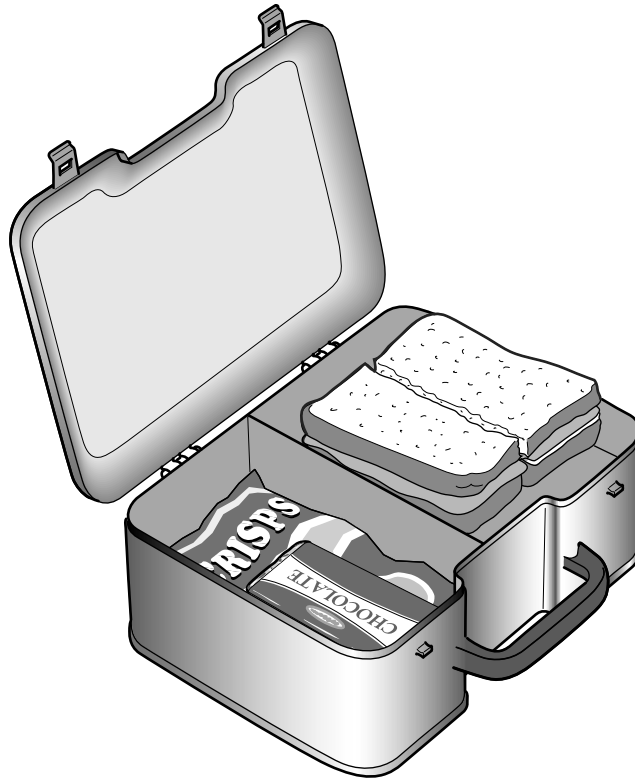
### INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [ ] at the end of each question or part question.
- The total number of marks for this paper is **60**.
- **Section A** is worth **30 marks**. You are advised to spend no more than 45 minutes on it.
- **Section B** is worth **30 marks**. You are advised to spend no more than 45 minutes on it.
- You will need to select from the tables in **Section B** when answering question 4 and question 5 of this paper. 'Trendsetter' and 'Iconic product' must be linked to the 'Era or Movement'.
- Your Quality of Written Communication will be assessed in questions marked with an asterisk (\*).
- This document consists of **16** pages. Any blank pages are indicated.

2  
**SECTION A**

You are advised to spend 45 minutes on this section.

- 1 Fig. 1 shows a plastic lunchbox for a child.



**Fig. 1**

- (a) Give **three** design features of the plastic lunchbox shown in Fig. 1.

- 1 .....
- 2 .....
- 3 .....

**[3]**

(b) Many lunch boxes for children are made in different colours and decorated with well-known film or television characters.

(i) Give **two** reasons why manufacturers use well-known film or television characters to decorate products for children.

1 .....

.....

2 .....

.....

[2]

(ii) Explain why the choice of colour is important to the design of a children's lunchbox.

.....

.....

..... [2]

(c) Explain how laws affect the use of well-known film or television characters when designing products.

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [3]

[Total: 10]

- 2 Fig. 2 shows a box of six fruit pies. Each pie is sitting in a foil case. Each foil case is held in a plastic tray, which is packed into a cardboard box.

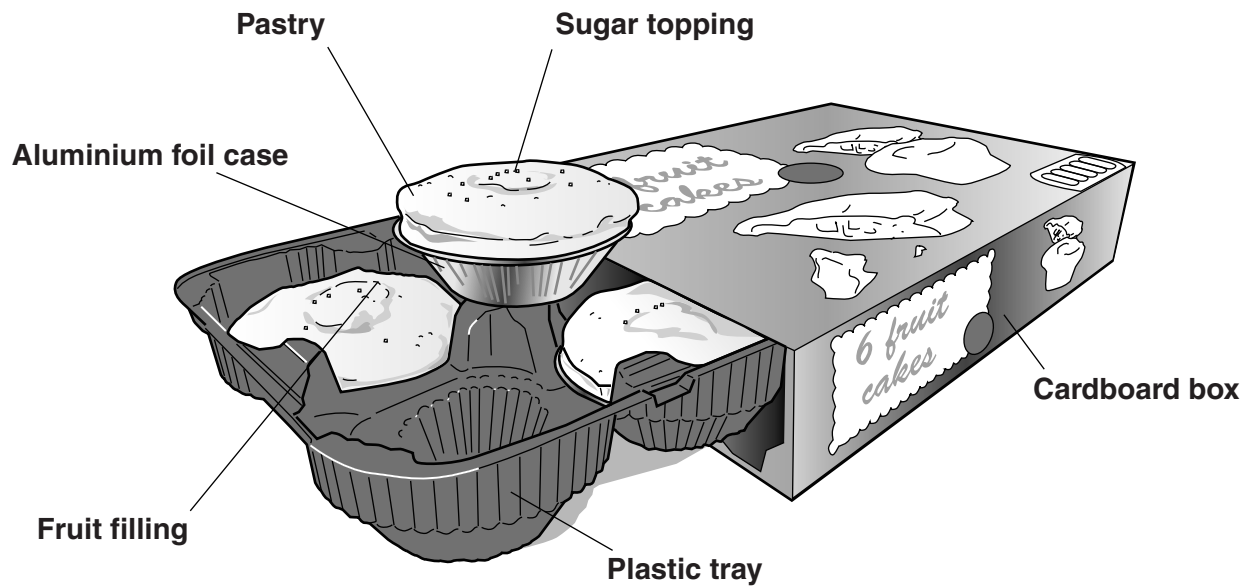


Fig. 2

- (a) Complete the table below. Place a tick (✓) to identify the **four** components of the product in Fig. 2. which come from renewable resources.

Do not tick more than **four** choices.

Component	From Renewable Resources
Fruit filling	
Sugar topping	
Pastry	
Aluminium foil case	
Plastic tray	
Cardboard box	

[4]

One of the basic principles of sustainable technology is to make products which are reusable.

(b) Describe **one** other basic principle of sustainable technology.

.....

.....

.....

.....

.....

.....

.....

.....

..... [2]

(c) Explain **two** benefits to a manufacturer of designing and making products in a way that does less damage to the environment.

.....

.....

.....

.....

.....

.....

.....

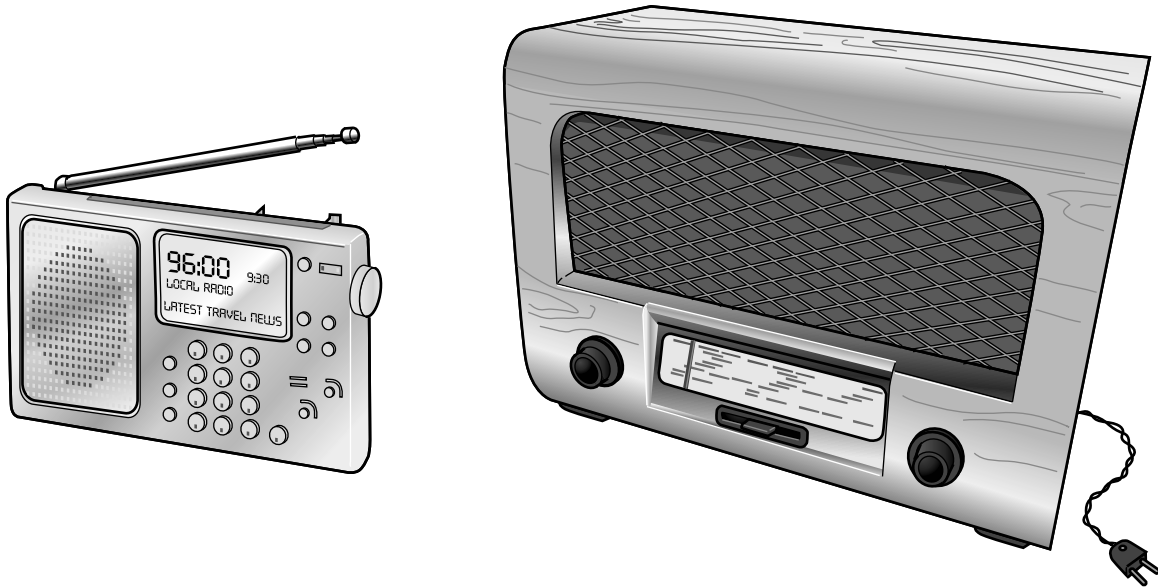
.....

.....

..... [4]

[Total: 10]

3 Fig. 3 shows a modern digital radio and a valve radio from the 1940s.



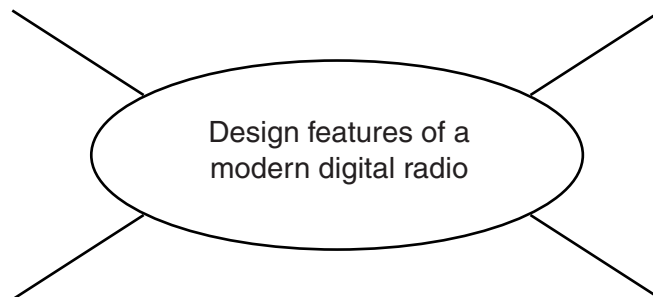
Modern digital radio

Valve radio from the 1940s

**Fig. 3**

- (a) Complete the diagram below by identifying **three** more design features of the modern digital radio which make it different from the radio of the 1940s.

It has a digital LCD display screen



[3]

- (b) Explain why people like **two** of the design features of the modern digital radio you have identified.

An example has been done for you.

Point 1: It has a digital LCD display screen.

Explanation: This shows precisely the frequency to which the radio is tuned which makes tuning easier and more accurate for the listener.

Point 2: .....

Explanation:

.....

.....

..... [2]

Point 3: .....

Explanation:

.....

.....

..... [2]

- (c) Explain why the design of electronic products, like radios, changes over time.

.....

.....

.....

.....

.....

.....

.....

..... [3]

[Total: 10]

**This question draws upon the research you carried out as part of your examination preparation.**

- Please indicate using a [✓] the era or movement you have studied.

✓	Era or Movement	Trend setter	Iconic Product
	1980s to the present	Philippe Starck	Juicy Salif lemon squeezer
	1960s/1970s	Laura Ashley	Floral furnishing fabric
	1980s/1990s	Alan Fletcher	Corporate identity for the Victoria & Albert Museum (V&A)
	1970s/1980s	Sir Clive Sinclair	ZX Spectrum programmable computer
	1990s	Linda McCartney	Linda McCartney Frozen Vegetarian Sausages

Explain why this trend setter had such a strong influence.

..... [6]



(b) Iconic product chosen .....

Give **two** reasons why the product you have chosen had such a strong influence.

1 .....

.....

.....

.....

2 .....

.....

.....

.....

[4]

[Total: 10]

**5 This question draws upon the research you carried out as part of your examination preparation.**

You will need to:

- Write a specification
- Produce a range of initial ideas
- Develop **one** idea
- Give details of the final proposal

Five different design needs are given below.

Please indicate using a [✓] one design need you are going to consider.

Design Need	✓
A device in the style of Philippe Starck for weighing ingredients.	
A bag in the Laura Ashley floral style.	
A leaflet in the style of Alan Fletcher's corporate identity for the Victoria & Albert Museum (V&A) to promote a club or activity at your school or college.	
A programmable device that can be used to control classroom temperature.	
A food product for a picnic in the style of Linda McCartney.	

- (a)** Identify **four** important design specification points for your chosen design need. These must specify key design requirements other than those detailed in the design need above.

1 .....

.....

2 .....

.....

3 .....

.....

4 .....

.....

**[4]**

- (b) Use sketches and notes to produce a range of initial ideas that meet your specification.

- (c) Use sketches and notes to develop **one** of your initial ideas to meet the original design need.

- (d)** Give details of your final proposal showing how it meets the four design specification points you identified in part **(a)** of this question.

[6]

[Total: 20]

**END OF QUESTION PAPER**

**14**  
**BLANK PAGE**

**PLEASE DO NOT WRITE ON THIS PAGE**

**15**  
**BLANK PAGE**

**PLEASE DO NOT WRITE ON THIS PAGE**

**PLEASE DO NOT WRITE ON THIS PAGE**



**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](http://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.