

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



Candidate forename		Candidate surname	
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Centre number						Candidate number				
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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.

SECTION A

You are advised to spend 45 minutes on this section.

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

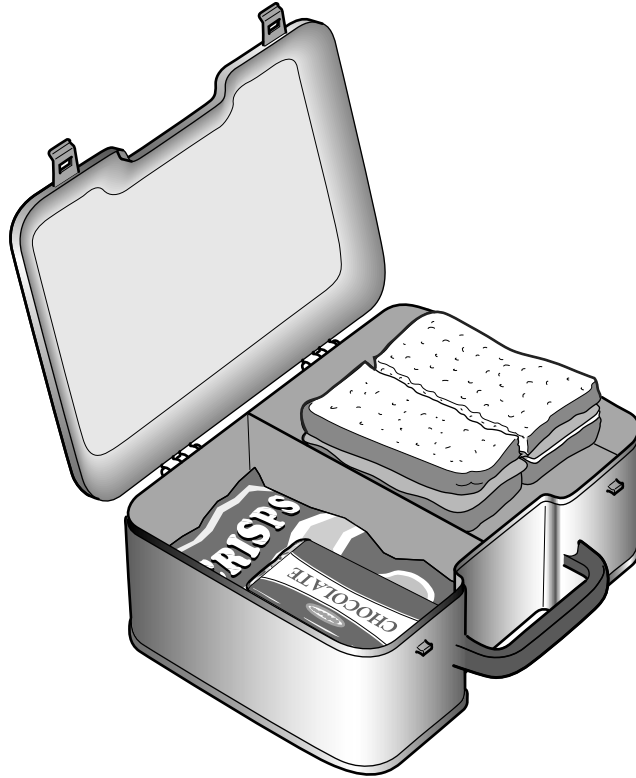


Fig. 1

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

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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 aimed at children.

1

2

[2]

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

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..... [2]

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

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[3]

[Total: 10]

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

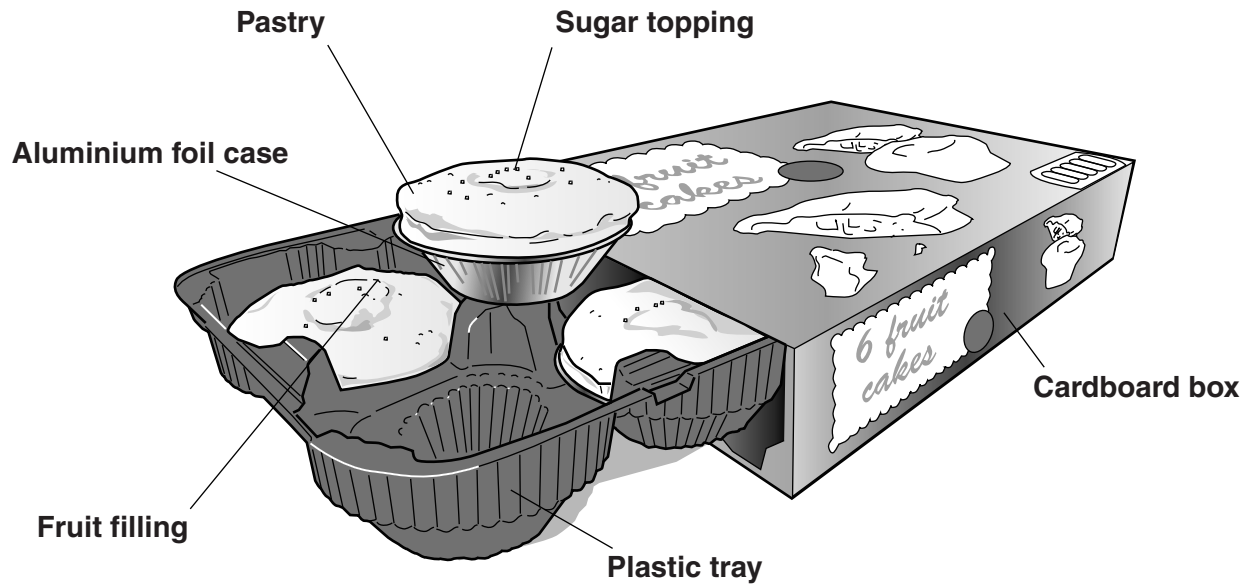


Fig. 2

- (a) Complete the table below. Place a tick (✓) to identify the **four** components of the product in Fig. 2. which are produced 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.

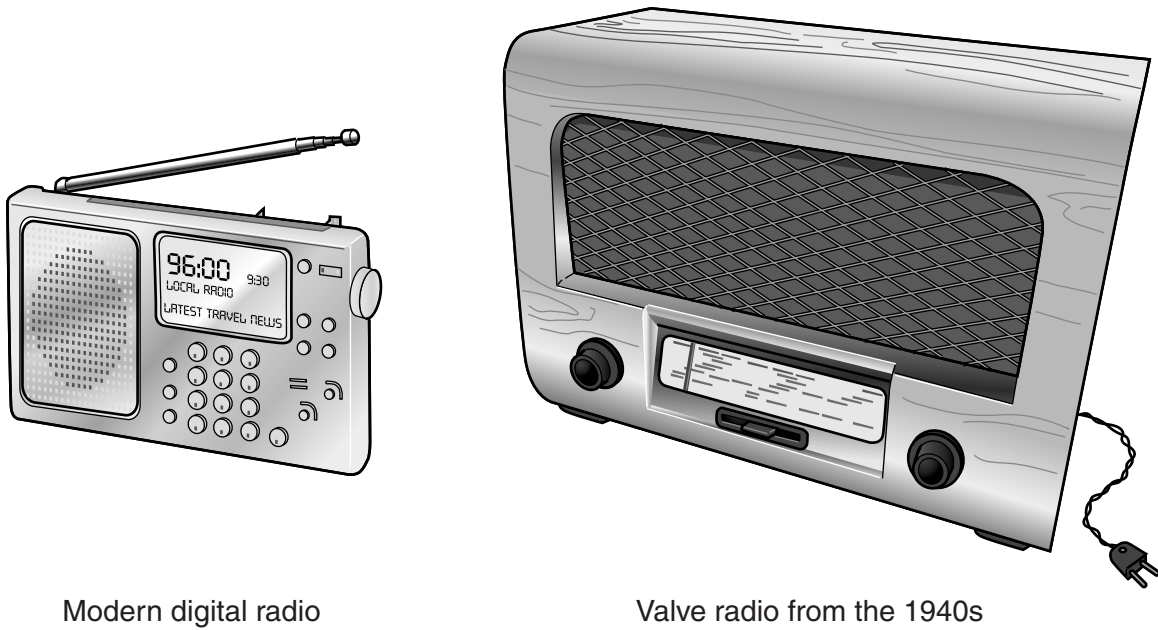
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(c) Explain **two** benefits to a manufacturer of designing and making products in a way that reduces environmental impact.

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[Total: 10]

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



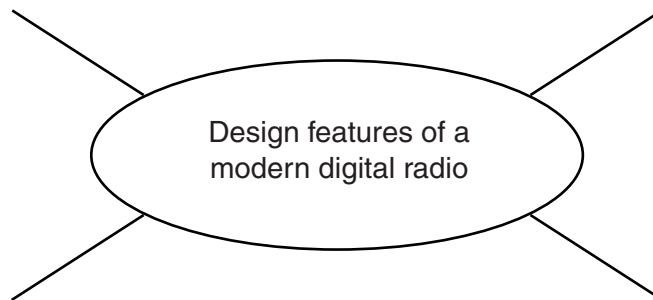
Modern digital radio

Valve radio from the 1940s

Fig. 3

- (a) Complete the diagram below by identifying a further **three** 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 **two** of the design features of the modern digital radio you have identified are popular with consumers.

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:

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..... [2]

Point 3:

Explanation:

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..... [2]

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

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..... [3]

[Total: 10]

8
SECTION B

You are advised to spend 45 minutes on this section.

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

4 The table below shows the eras, trend setters and iconic products for this examination.

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

(a)* Trend setter chosen

Explain why this trend setter has been so influential.

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[6]

(b) Iconic product chosen

Give **two** reasons why the product you have chosen has been so influential.

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[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.

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[4]

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

[5]

- (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

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