

Wednesday 16 January 2013 – Morning

GCSE DESIGN AND TECHNOLOGY Product Design

A554 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. 'Trend setter' 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 jug.

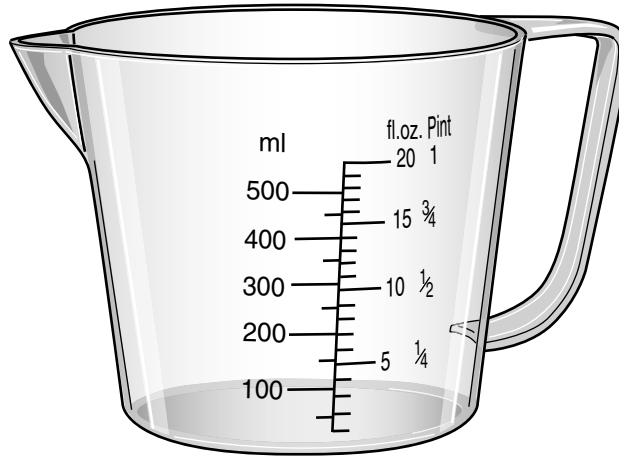


Fig. 1

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

- 1
- 2
- 3

[3]

(b) The plastic jug in Fig. 1 was designed using computer-aided design (CAD).

(i) Give **two** advantages of using a CAD to design products.

- 1
- 2

[2]

(ii) Describe how CAD and computer-aided manufacture (CAM) work together to produce a quality product.

-
-
-

[2]

2 Fig. 2 shows a fibre optic lamp.

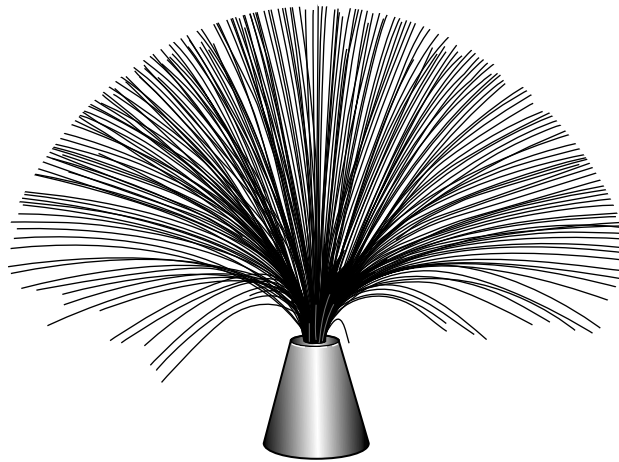


Fig. 2

The colour of the light can change to create different moods and emotions in a room.

(a) Look at this list of colours:

red orange yellow green blue grey violet

Complete the table below by choosing the colour which is most associated with the different moods and emotions.

The first one has been done for you.

Moods and Emotions	Colour
Stability, warmth, excitement	Orange
Nature, relaxing, restful	
Danger, passion, energy	
Calming and soothing, serenity	
Sunshine, optimism, freshness	

[4]

(b) Describe one way a paint manufacturer could find out which colours are most popular with customers.

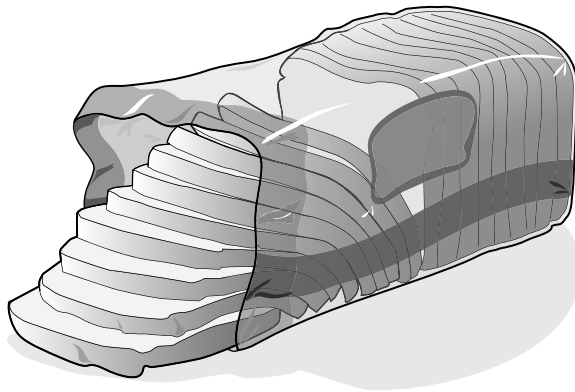
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(c) Explain why clothing manufacturers introduce a new colour range each season.

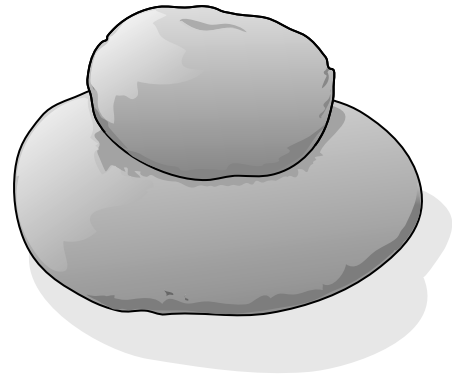
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..... [4]

[Total: 10]

- 3 Fig. 3 shows two loaves of bread, one is a modern loaf from a supermarket, the other is a loaf made in the 1890s.



Modern loaf

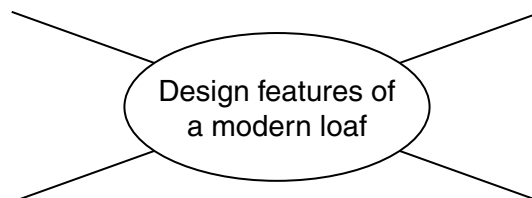


loaf made in the 1890s

Fig. 3

- (a) Complete the diagram below by identifying a further **three** design features of the modern loaf which makes it different from the loaf made in the 1890s.

It is wrapped and sold in a polyethylene bag



[3]

- (b) Explain why **two** of the design features of the modern loaf you have identified are popular with customers.

An example has been done for you.

Point 1: It is wrapped and sold in a polyethylene bag.

Explanation: Nowadays most customers do not want their food products exposed to the air for fear of it becoming contaminated with germs, so producers sell them ready-wrapped in a protective bag.

Point 2:

Explanation:

.....
.....
..... [2]

Point 3:

Explanation:

.....
.....
..... [2]

- (c) The examples in Fig. 3 show how the design of loaves of bread has changed over time.

Explain how modern production methods have influenced the design of the modern loaf.

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..... [3]

[Total: 10]

Turn over

(b) Iconic product chosen

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

1

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.....

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2

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.....

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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 pair of kitchen scissors in the style of Philippe Starck.	
An item of summer clothing in the Laura Ashley floral style.	
A name sign for the front of your school or college in the style of Alan Fletcher’s corporate identity for the Victoria & Albert Museum (V&A).	
A programmable device that switches off lights when a room is not in use.	
A frozen meal 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

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2

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3

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4

.....

[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.

[5]

- (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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