

Friday 25 January 2013 – Morning

GCSE DESIGN AND TECHNOLOGY Graphics

A532/01 Sustainable Design

Candidates answer on the Question Paper.

OCR supplied materials:

None

Other materials required:

None

Duration: 1 hour



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.
- 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).
- Answer **all** the questions in **Section A and Section B**.
- 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**.
- Your Quality of Written Communication is assessed in questions marked with an asterisk (*).
- This document consists of **12** pages. Any blank pages are indicated.

2

SECTION AAnswer **all** questions.

You are advised to spend 15 minutes on this section.

On questions 1–5 circle your answer.

- 1** The term finite means:
- (a) Depletion of the solar system
 - (b) Can only last a limited period of time
 - (c) Depletion of the ozone layer
 - (d) Can last forever
- [1]**
- 2** The use of non-renewable materials should be:
- (a) Discouraged
 - (b) Unlimited
 - (c) Encouraged
 - (d) Cheap
- [1]**
- 3** The Forest Stewardship Council supports:
- (a) Recycling paper
 - (b) The cutting down of forests
 - (c) The council of tree stewards
 - (d) Managed renewable forests
- [1]**
- 4** Which of the following is not a sustainable energy source:
- (a) Tidal
 - (b) Wind
 - (c) Coal
 - (d) Hydro
- [1]**

5 Secondary recycling means to:

(a) Give a product to a charity shop

(b) Recycle a product twice

(c) Fix or mend a product

(d) Recycle a product into a different product

[1]

6 Name the symbol shown below.



..... [1]

7 State the term used to describe when a product is designed with consideration for the environment.

..... [1]

8 Which of the 6Rs describes how a product can be mended?

..... [1]

9 State what is meant by deforestation.

..... [1]

10 When a product is designed to fit the human form it is

.....designed. [1]

4

Decide whether each of the following statements is **true** or **false**.
Tick (✓) the box to show your answer.

	True	False	
11 Photochromic inks change colour in varying temperatures.	☐	☐	[1]
12 To approach a design problem in a different way is to rethink.	☐	☐	[1]
13 High Density Polyethylene can be recycled.	☐	☐	[1]
14 The European eco-label is placed on products that cause a high level of environmental damage.	☐	☐	[1]
15 A biodegradeable material will rot naturally in the ground.	☐	☐	[1]
			Total [15]

5

SECTION B

Answer **all** questions.

You are advised to spend 45 minutes on this section.

16 Fig. 1 shows three types of toy packaging.

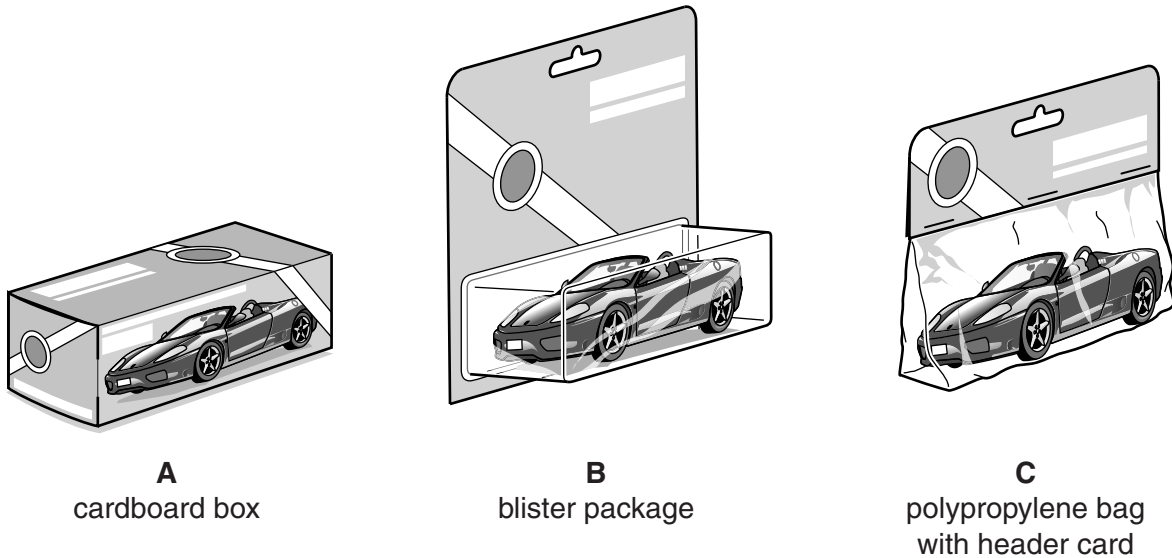


Fig. 1

(a) **A** is made from post-consumer cardboard.

Explain the meaning of the term post-consumer.

.....

.....

..... [2]

(b) State **one** reason why cardboard has been used for **A**.

..... [1]

(c) Explain **one** problem with recycling **B**.

.....

.....

.....

.....

.....

..... [3]

6

- (d) Give **one** reason why a consumer may prefer the packaging of **B** rather than **A**.

.....
..... [1]

- (e) Explain **one** reason why the packaging of **C** is more economically viable to manufacturers.

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

- (f) Manufacturers must ensure that packaging is safe for the user.

Give **two** safety concerns that would need to be considered.

1
.....
2
..... [2]

7

(g) Manufacturers need to ensure that factory workers are aware of the dangers of using machinery.

(i) State **one** colour that could be used to show danger.

..... [1]

(ii) In the space below, design a symbol to show that long hair must be tied back when operating machinery.

[3]

Total [15]

17 Fig. 2 shows a vase made in Indonesia. The vase is made from recycled magazines.



Fig. 2

(a) Give **four** advantages of making products from recycled materials.

- 1
 - 2
 - 3
 - 4
- [4]**

(b) The vase in Fig. 2 is handmade in Indonesia. The workers are supported by the Ethical Trading Initiative (ETI).

State **three** benefits to workers supported by ETI.

- 1
 - 2
 - 3
- [3]**

18 Fig. 3 shows a book with pop-up mechanisms.

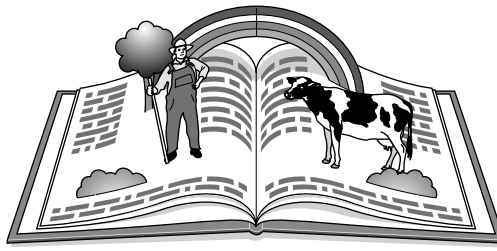


Fig. 3

(a) Complete the table below by giving an environmental disadvantage of the materials used for the book in Fig. 3. Give a different answer for each.

Component	Material	Environmental Disadvantage
Front & Back Cover	Bleached white card	
Text/Images	Oil based Inks	
Pop-up Mechanisms	Card made from virgin pulp	

[3]

(b) The pop-up mechanisms need to be attached to the pages of the book in Fig. 3.

(i) Name **one** adhesive that could be used.

..... [1]

(ii) State **one** reason why pop-up mechanisms are used in the book.

..... [1]

- (c) (i) Give the meaning of the term aesthetic.

.....
 [1]

- (ii) State **three** ways that the book in Fig. 3 could be made more aesthetically pleasing.

1

 2

 3
 [3]

- (d) Explain why, in today's society, there has been a decrease in the sale of printed books.

.....

 [3]

- (e) The book in Fig. 3 is to be recycled.

Identify **three** examples of primary recycling for the book.

1

 2

 3
 [3]

Total [15]

END OF QUESTION PAPER

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) 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.