

Candidate forename						Candidate surname					
Centre number						Candidate number					

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GCSE

A532/01

DESIGN AND TECHNOLOGY

Graphics

Sustainable Design

TUESDAY 29 MAY 2012: Afternoon

DURATION: 1 hour

plus your additional time allowance

MODIFIED ENLARGED

Candidates answer on the Question Paper.

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

None

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes on the first page. 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.

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 (*).

SECTION A

Answer ALL questions.

You are advised to spend 15 minutes on this section.

On questions 1–5 circle your answer.

1 One type of recycling is to:

- (a) Store renewable materials**
- (b) Not use toxic materials**
- (c) Throw materials away**
- (d) Break down and reuse materials**

[1]

2 Tidal power generates energy from the:

- (a) Sea**
- (b) Clouds**
- (c) Earth**
- (d) Sun**

[1]

3 Which of the following is the most difficult to recycle:

(a) Corrugated cardboard

(b) Shredded paper

(c) Bubble wrap

(d) Wood shavings

[1]

4 To reuse a product means:

(a) To throw it away

(b) To use it again

(c) Not use it again

(d) Mend it when it is broken

[1]

- 5 The symbol shown below means that Aluminium can be:**



- (a) Thrown away**
- (b) Returned**
- (c) Repaired**
- (d) Recycled**

[1]

- 6 State the meaning of the Green Dot symbol.**

_____ **[1]**

- 7 Which of the 6Rs describes when we fix or mend a product?**

_____ **[1]**

- 8 The internationalisation of products is also known as**

_____ **[1]**

9 State the meaning of biodegradeable.

_____ [1]

10 Nanotechnology is the science of

_____ [1]

Decide whether each of the following statements is TRUE or FALSE.

Tick (✓) the box to show your answer.

	TRUE	FALSE	
11 All plastics are easily recycled	<input type="checkbox"/>	<input type="checkbox"/>	[1]
12 Vegetable based printing inks are less harmful to the environment than solvent based inks	<input type="checkbox"/>	<input type="checkbox"/>	[1]
13 Ethical trade initiatives support workers	<input type="checkbox"/>	<input type="checkbox"/>	[1]
14 Refilling a water bottle has a negative impact on the environment	<input type="checkbox"/>	<input type="checkbox"/>	[1]
15 Built in obsolescence means that a product has been designed to last a certain period of time	<input type="checkbox"/>	<input type="checkbox"/>	[1]
			Total [15]

SECTION B

Answer ALL questions.

You are advised to spend 45 minutes on this section.

16 Fig. 1 shows a pencil crayon box.

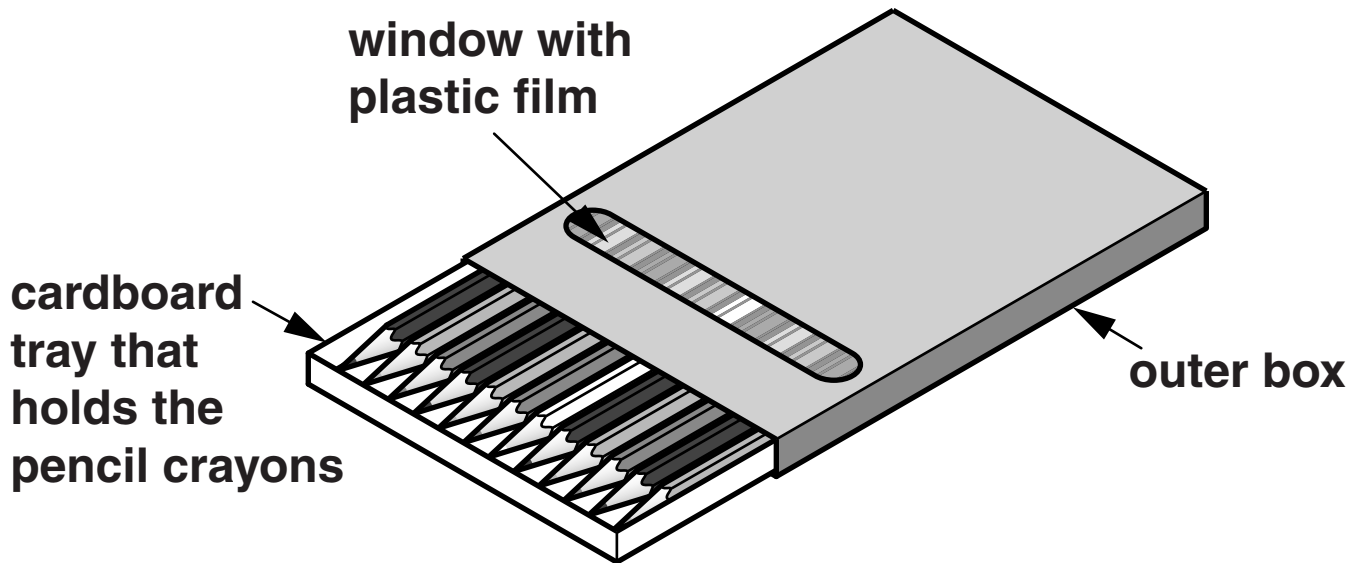


Fig. 1

(a) The manufacturer of the pencil crayon box wants to reduce the amount of material used.

(i) Give FOUR reasons why this would be beneficial to the environment.

1 _____

2 _____

3 _____

4 _____

_____ **[4]**

(ii) State ONE reason why this would be beneficial to the manufacturer.

_____ **[2]**

- (b) Use sketches and notes to show how the design of the pencil crayon box could be modified to reduce the amount of material(s) used.**

The design should include TWO or more modifications.

(c) Fig. 2. shows a symbol embossed onto the window of the pencil crayon box.



Fig. 2

Name the symbol shown in Fig. 2

_____ **[1]**

(d) Using examples from the pencil crayon box, explain the following terms:

Primary Recycling _____

Tertiary Recycling _____

[4]

Total [15]

17 (a) A daily newspaper is printed using low VOC inks.

(i) State what the initials VOC stand for.

_____ **[1]**

(ii) Give TWO reasons why low VOC inks could be used.

1 _____

2 _____

_____ **[4]**

- (b) The manufacturer of the newspaper must comply with COSHH regulations.
Using examples, explain the purpose of COSHH regulations.**

[4]

(c) Complete the table below to show a Risk Assessment that the manufacturer of the newspaper might carry out.

The first one has been done for you.

POTENTIAL HAZARD	SOLUTION
Poisoning from spilt toxic solutions and chemicals	No eating or drinking in the workshop to prevent contamination

Total [15]

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18 (a) Give ONE reason why CD's are difficult to recycle.

_____ [1]

(b) Give THREE ways a consumer can reduce the need for using CD's.

1 _____

2 _____

3 _____ [3]

(c) State TWO suitable reuses for an unplayable CD.

1 _____

2 _____ [2]

(d) Graphic products can be manufactured in developing countries.

Describe the social benefits of manufacturing in a developing country.

_____ [3]

(e)* Recycling signs and symbols are found on graphic products.

Discuss the benefits to consumers and manufacturers of using these signs and symbols.

[illegible]

[6]

Total [15]

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