

# Examiners' Report

## June 2012

### GCSE Design & Technology: Graphic Products 5GR02 01

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June 2012

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## **Introduction**

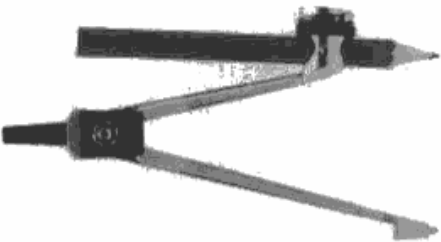
This is now the third year that this paper has been offered but in reality only the second year when there has been a significant number of candidates. The pattern and format of the paper is becoming more familiar to centres and candidates alike.

An erratum was issued to avoid some possible confusion with the diagram in Question 13. It was clear where candidates were aware of the erratum as they had written in the additional words. However many candidates, who did not make such an amendment, did not appear to be hindered in any way.

The front of the exam paper contains clear instructions for candidates, but in some cases the advice given was not followed, particularly for the design Question 12. Many of the images were not visible enough when it came to marking. Candidates need to make sure that HB or B type pencils are used or that they should go over their designs in pen once they are completed.

### Question 11 (a) (i)

The format of this type of question is now well established in that it provides candidates with four separate images that they either have to name or give a description of the items used.

Tools/Equipment	Name	Use
	Compass	For drawing circles (1)



#### ResultsPlus Examiner Comments

The candidate here has correctly given a use of the compass for drawing circles. This response only requires a short statement to this type of question. The majority of candidates scored correctly here by identifying the compass for use when drawing circles or arcs.



#### ResultsPlus Examiner Tip

Make sure that you are familiar with all the different types of tools and equipment listed in the specification.

### ***Question 11 (a) (ii)***

Although it would have appeared that many candidates recognised the item, they were unable to correctly name it as an ellipse template. The most commonly seen response related to some form of circle template/guide.

### ***Question 11 (a) (iii)***

This should have been a very common item for candidates to name but approximately only half the candidates were able to name the item as a set square. Ruler and tri square were among the most frequent incorrect responses seen.

### ***Question 11 (a) (iv)***

This part question was done well by most candidates with references to printing, scanning and copying documents.

### Question 11 (b) (i)

This question was well done by most candidates with the most common response being 'it will not rust'. This is fine for this type of question since it uses the command word 'give' and as such only warrants a word or short statement at best.

(b) The diagram below shows a street sign made specifically for a new museum.



(i) The sign is made from aluminium.

Give **one** property of aluminium that makes it suitable for the street sign.

(1)

Property

*lightweight*

(ii) Explain one reason why steel may not be a suitable material for the street sign.



**ResultsPlus**  
Examiner Comments

A single word is appropriate for this type of question since it is a 'give' type question and as such the response by this candidate 'lightweight' is both correct and sufficient. It is all that needs to be said to score the 1 mark available.

## Question 11 (b) (ii)

This question was done well by many candidates but with a 'describe/explain' type of question it is very easy to lose marks if a point made is not developed. Many candidates therefore scored only 1 of the 2 marks available with the most popular response being that the steel will rust.

(ii) Explain **one** reason why steel may not be a suitable material for the street sign.

(2)

Steel is not because it will rust,  
And after a very long time the rust will  
cover the sign and you can't read  
it anymore.



**ResultsPlus**

**Examiner Comments**

The candidate has said that steel will rust which is correct for 1 mark and continued to give the consequences. In this case the candidate stated that the rust would cover the sign and could not be read any more.



**ResultsPlus**

**Examiner Tip**

When you have 'describe/explain' type questions, do make sure that you make a point and then develop the point. If you use words or phrases such as 'which means', and 'therefore' you will need to go on to make a statement.

### Question 11 (b) (iii)

This question was well done again by many candidates with references to those not able to read or speak English amongst the most popular responses.

(iii) Explain **one** reason why a symbol is used in addition to the word on the sign.

(2)

to make it understandable for  
a person who can't read in  
english



**ResultsPlus**  
Examiner Comments

This candidate has scored 2 marks for this response by including the word might be difficult to understand (1 mark) for a person who cannot read English (1mark).

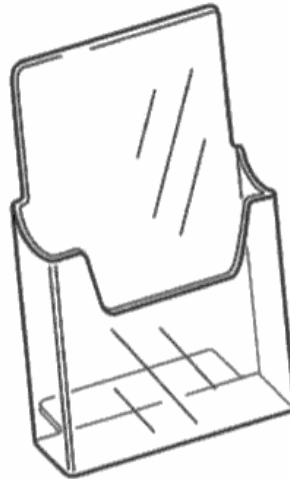


### Question 11 (c) (i)

With this type of question it is important to make a link between the property specified and the reason as to why that property is appropriate for the chosen product; in this case a leaflet holder.

Many incorrect responses related to the fact that the material was transparent or rigid.

(c) The diagram below shows an acrylic leaflet holder that will be used in the museum.



(i) Give **one** property of acrylic that makes it suitable for the leaflet holder.

For your property, give **one** reason for your answer.

(2)

Property

Durable

Reason

It can withstand alot of ureage.



**ResultsPlus**  
Examiner Comments

Durable is a correct property in this instance and the reason is appropriate so this candidate scored the 2 marks available.

## Question 11 (c) (ii)

Almost half of all candidates scored half marks on this question. Laser cutters have become quite common machines in schools today and as such many candidates have had first hand experience of using one or at least having seen one in operation.

(ii) Explain **two** advantages of using a laser cutter to make the leaflet holder compared with traditional cutting methods.

- 1 It is more precise than hand cutting, which means it can be more accurate with the angles and lengths.
- 2 It is more clean and leaves ~~no need~~ it self-finished, which means that there is no need to sand the edges down after.



### ResultsPlus Examiner Comments

In the first response, accurate and more precise both mean the same thing so this part scored only 1 mark. However, the second response scored both marks.



### ResultsPlus Examiner Tip

In any question such as this you must avoid repeating the statement in the question which ultimately will not score you a mark. Many responses were seen along the lines of 'more accurate than traditional cutting methods' and as such this type of response will only ever score 1 mark.

### Question 11 (d)

This question about the use of the internet was well responded to by just under half the candidates and one might have expected a better level of response given the nature of the question. That said, to explain **two** advantages does start to give a greater challenge than just **one** advantage.

(d) A website is used for marketing the museum.



Explain **two** advantages of using the internet for marketing the museum.

(4)

- 1 The majority of the world use the internet so the museum will be advertised worldwide attracting more tourists, therefore making more money.
- 2 You can update a website more quickly and frequently whereas leaflets take time to be changed then sent out to peoples doors. Its more efficient using the internet to market the museum.



**ResultsPlus**  
Examiner Comments

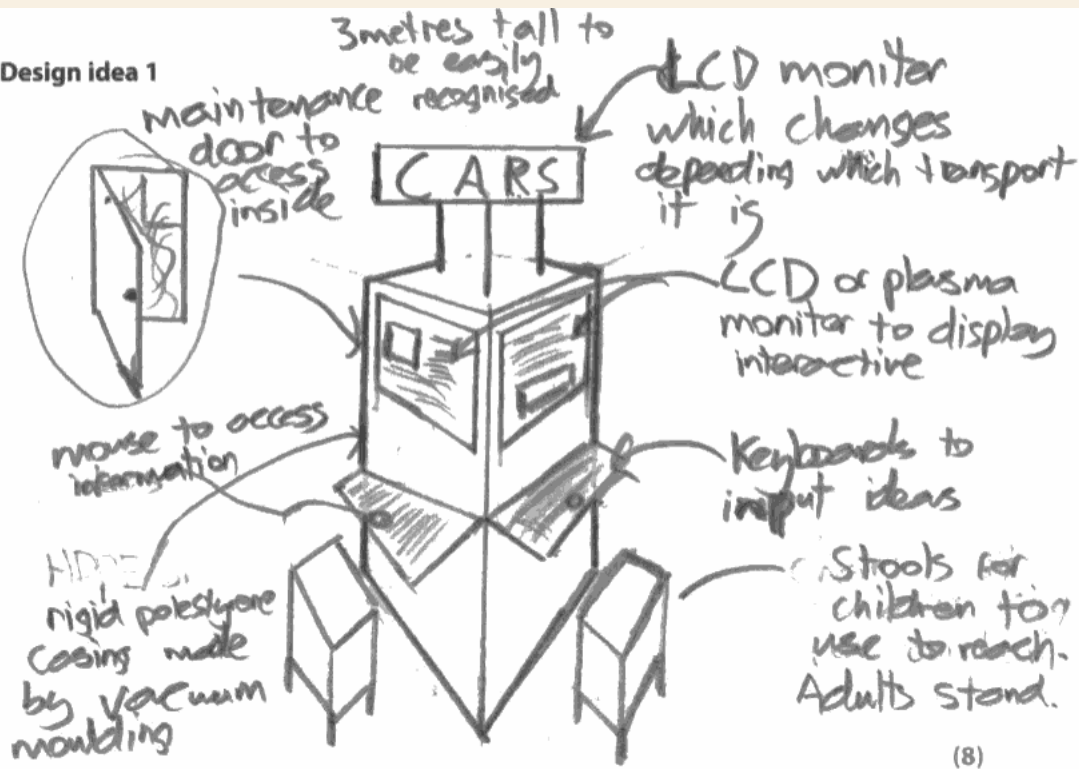
Both responses here score 2 marks each. Each point has been developed with a valid reason.

## **Question 12**

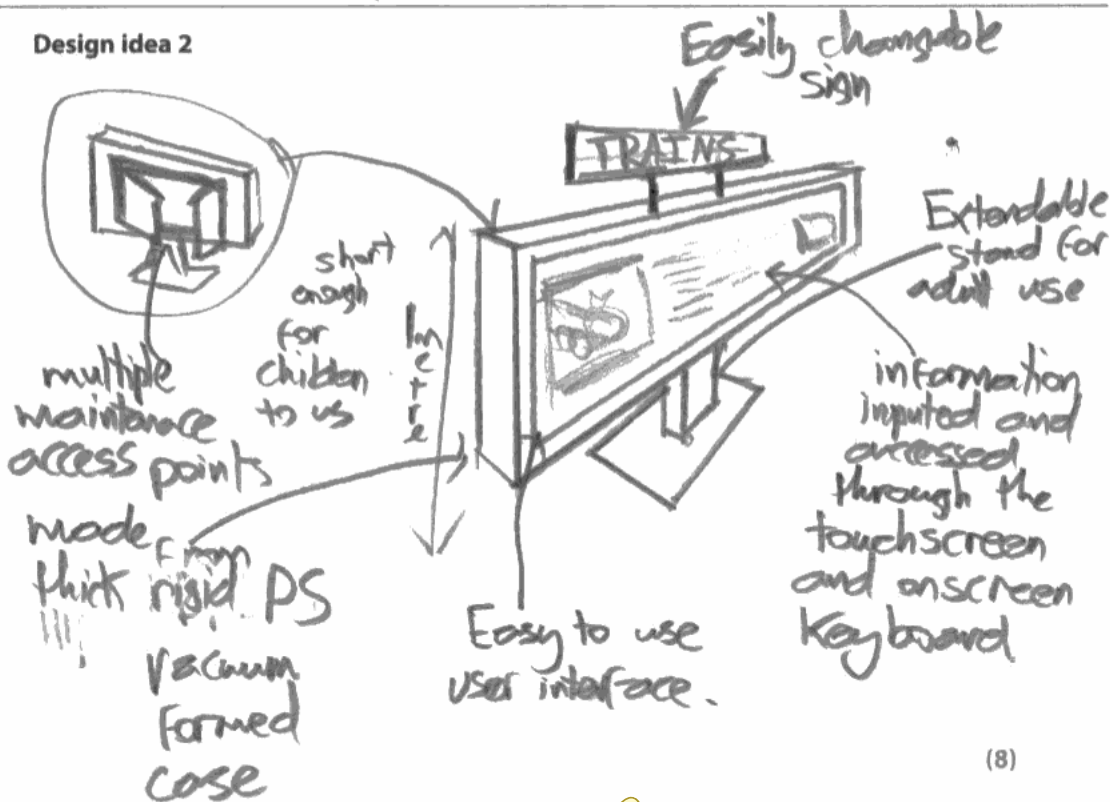
The format of this type of question is now well established.

A good spread of marks indicated that this question was accessible to most candidates although a number used a 'non-electronic' approach, designing basic leaflet holders or museum guides. However this did not preclude them from gaining marks. A high number of candidates offered very similar designs and failed to gain the relevant marks on the second design idea. Graphic skills varied tremendously.

Design idea 1



Design idea 2



**ResultsPlus**  
Examiner Comments

The candidate here has presented two different ideas to a very good standard overall. The designs are easy to see and the short, brief notes help to convey information and detail such as materials and processes.

**ResultsPlus**  
Examiner Tip

Do not try to write too much, but keep notes brief and to the point. Do make sure that your second idea is different to the first one in that the design specification points are resolved in a different way to the way you have solved them for the design idea 1.

### Question 13 (a)

Many candidates scored well for a property or two, but lost marks by not being able to correctly link the justification.

(a) Give **two** properties of polystyrene (PS) that makes it a suitable material for the casing.

For each property, justify your answer.

(4)

Property 1

Polystyrene is a light material

Justification

So the casing of the camera will not add weight that much weight on.

Property 2

polystyrene is hard

Justification

So to protect the insides of the camera



**ResultsPlus**

**Examiner Comments**

The first property and justification has been awarded 2 marks but the second property is incorrect. The justification has still been awarded 1 mark since there is an element related to the material being tough, which ultimately means that the components inside would be protected due to the nature of the material.

### Question 13 (b)

Too many candidates here mis-read the question and subsequently their responses were related to printing directly onto the plastic case rather than as detailed in the question 'printing the sleeve'.

(b) Explain **one** reason why offset lithography is suitable for printing the sleeve.

Because it is cost effective & but prints <sup>(?)</sup>  
accurate enough



#### ResultsPlus Examiner Comments

The candidate here has only scored 1 mark because a point was made but not explained.



#### ResultsPlus Examiner Tip

Many candidates left this question blank. Always try to have a go, because you never know you might just surprise yourself and pick up a mark or two which can make all the difference in the end.

### Question 13 (c) (i)

This type of question format is also well established now and candidates should be able to respond to it.

Many candidates scored at least 1 mark for this question.

(c) Explain why the disposable camera was successful at meeting the following specification points:

(i) Easy to turn on and off. \*

(2)

Has a switch at the front which clearly show two labels 'OFF' and 'ON'. The switch has also been developed to make it easily accessible to ~~see~~ slide around.



**ResultsPlus**

**Examiner Comments**

Full marks for this response given that the candidate has made a point and then gone on to develop it.



**ResultsPlus**

**Examiner Tip**

Too many candidates lost the second mark on this question for basically repeating what was being asked in the question to start with. A typical response therefore would have been something like 'It has a large switch which makes it easy to turn on and off'



### Question 13 (c) (ii)

Again this type of question format should now be familiar to candidates. Many candidates scored 1 mark.

(ii) Capable of being branded for specific events.

(2)

The carton board can be replaced with carton board with a specific design or brand printed on it by offset lithography.



**ResultsPlus**

**Examiner Comments**

This response is short and gets to the point very quickly. A point is made and then backed up with a good reason.



**ResultsPlus**

**Examiner Tip**

Remember to explain a point made with a good reason. No marks are given for repeating words from the question.

### Question 13 (d)

This part question is a test of the candidates' Quality of Written Communication (QWC) and as such candidates are being marked on their ability to be able to convey and develop ideas using accurate technical vocabulary and terminology. Tables and bullet point lists are therefore to be avoided since they do not allow the candidate the ability to show skills in QWC.

Evaluate disposable camera A compared with the compact digital camera B in terms of 'sustainability' issues and 'user requirements'.

(6)

The disposable camera hasn't got a very long life expectancy, because it is cheap it can be thrown away and a new one can be bought. However the digital camera has a longer lifespan, can have replaced and fully functioned very quickly. Also camera B has the ability to zoom and other modern features whereas the camera A can only capture light & flash, does not provide many options for the photographer. Furthermore the digital camera stores the photos/images on a memory card which you can print off or upload yourself. The disposable camera does not have these features. The photographic film must be developed, also not possible at home.



**ResultsPlus**

**Examiner Comments**

This response demonstrates a good level of QWC. Some good points have been made and conveyed in a clear and concise fashion.



**ResultsPlus**

**Examiner Tip**

The amount of space provided here is sufficient to be able to respond to the question and to be able to score the full 6 marks available. In some cases candidates had started to write about areas other than sustainability and user requirements, and as such they cannot be awarded any marks. They must concentrate on the two areas specified.

### Question 14 (a) (i)

This short question was done very well by the majority of candidates.

### Question 14 (a) (ii)

Candidates showed little understanding here in relation to the working characteristics of carbon fibre. Lightweight was a popular response with a few candidates making reference to strength-to-weight ratio, but both types of response lacked valid explanations.

(ii) Explain **two** reasons why the frame is made from carbon fibre.

(4)

1 Its very light weight so it can increase the speed travelled at

2 Strong for durability over different road terrain



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Examiner Comments

The first point made here has been correctly explained but the second reason only scored 1 mark for durability and an incorrect explanation related to different road terrain.

### Question 14 (a) (iii)

This part question was answered reasonably well but quite a lot of candidates confused what was being asked and responded with comments more focussed on CAM rather than CAD.

(iii) Explain **two** advantages of using computer-aided design (CAD) when designing the bike frame.

(4)

1 It would be very accurately and precisely made. Everything would fit perfectly.

2 can be altered, you could see it on a computer before done, giving you an example of what it would look like.



**ResultsPlus**  
Examiner Comments

This response contains some good points but both have not been explained correctly or in sufficient detail to be able to warrant the awarding of full marks.

## Question 14 (b)

This part question was quite poorly answered by several candidates. There appeared to be a lack of knowledge about the reasons for batch production. Those that scored a mark seemed to grasp the concept that there was a limited market/level of appeal.

(b) Explain **two** reasons why the road bike is batch produced.

(4)

- 1 Road bike is batch produced because not that people ride a road bike, so if they make millions they would not sell all of them and they would lose money.
- 2 They can't use mass production because the process of making the bike far too difficult to program the machine and they don't do one-off production it would take far too long. Batch is in middle, so don't make too much and use machine for some of the bits and other bits they get people.



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Examiner Comments

Only the first point made and reason given scores marks here.

## Question 14 (c)

A large number of candidates failed to respond to this question. It might have been that they ran out of time or they had little knowledge about what was being asked. This is another question that tests QWC. The most common form of response related to the cost of labour and the working conditions experienced.

\*(c) The road bike was designed in the USA but made in Taiwan using 'offshore manufacturing'.

Evaluate the use of offshore manufacturing by multinational companies.

(6)

Offshore manufacturing is used by many companies where it is used as it is cheaper for the manufacturing company, this occurs as the bikes would be made in a 'sweat shop' where wages are lower therefore they can gain a higher profit as they don't have to pay for high labour costs. This is convenient for most large companies as they can produce a larger amount of products for the same price they would initially pay. These countries such as Taiwan are therefore being exploited as they are being used to benefit multinational companies and not themselves. However it is used by multinational companies, as other countries such as Taiwan do not mind doing hard labour jobs as it provides an income for them and their family. This would ~~not~~ then be considered as acceptable by multinational <sup>companies</sup> ~~parties~~ as both parties (company and country) are both receiving some sort of income/benefit.



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Examiner Comments

Some good points were made here by the candidate with an appropriate level of written communication. The ideas have been well made and developed but only sufficient points were made for the award of 4 out of the 6 marks available.

## **Paper Summary**

Candidates are getting better at responding to the 'describe/explain' type question but they would benefit from more practice at this type of question. If candidates do not go on to support their responses they are not allowing themselves full access to all the marks available and as such end up limiting their overall score and level of performance.

There were also a number of cases seen this year where candidates had gone over the space allocated for the answer and carried on writing over the page or at another point in the paper where they could find space. This is to be avoided. If candidates do find they need more space than that provided, then additional sheets should be used and attached with a treasury tag. Treasury tags are recommended rather than cable ties. When cable ties are used, papers tend to be torn while turning pages.

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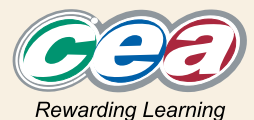
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